

Ante bella punica:

Western Mediterranean Military Development 350-264 BC

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Abstract:

This thesis investigates the military equipment and tactics utilized by Carthaginian, Celtic, Celtiberian, Iberian, Italic, Libyphoenician, Numidian, Greek, and Sicilian troops that fought in the Carthaginian, Roman, and Syracusan armies in the century leading up to the First Punic war. It also specifically examines the methods by which Carthage, Rome, and Syracuse extended their respective hegemonies and the socio-political power dynamics at work within them, which appear, like the aforementioned military equipment to have been remarkably similar.

It intends to illustrate that this similar extension of hegemony and socio-political power dynamics worked together with their frequent employment of similar troops, who fought with similar weapons, to create a distinct western Mediterranean military *koine*.

Therefore, this thesis refutes the traditional Roman-centric literary narratives that promoted a sense of Roman military exceptionalism during the fourth and early third centuries BC. Indeed, the corpus of archaeological evidence examined in this work demonstrates that Roman armies, which in the years following 338 consisted of up to fifty percent allies (many of whom had served in Carthaginian and Syracusan armies since the fifth century) were fighting with remarkably similar weapons and tactics as their wider western Mediterranean contemporaries.

Finally, this thesis also intends to illustrate the central role that Celtic and central and southern Italians appear to have played in the development and transmission of this remarkably similar military equipment across the western Mediterranean.

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Dates:

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Abbreviations:

All primary source abbreviations follow the Oxford Classical Dictionary, 4 Edition
Abbreviations List

Chapter One:

Introduction

Between c.480-264 B.C. the western Mediterranean experienced a series of prolonged military interactions focused primarily around the Italian Peninsula, North Africa and Sicily.¹ These interactions, particularly those between Carthage and Syracuse, were fought with heterogeneous armies filled with Celtic, Celtiberian, Iberian, Italic, Greek, and North African soldiers.² Warfare in the Italian peninsula, was similarly fought with heterogeneous armies consisting of Celts, the numerous and diverse Italic peoples, in addition to Italiote Greeks, and Greeks. Indeed, the Roman armies of the fourth and third centuries often contained a variety of Italic allies, each with their own cultural identities. This thesis will argue through a comprehensive investigation of the archaeological and literary evidence that these military interactions may have facilitated the development and transmission of similar military equipment and tactics across the western Mediterranean. Consequently, a shared military language or *koine* developed. Moreover, archaeological evidence further suggests that during the course of the fourth and third centuries this western Mediterranean military *koine* appears to have become increasingly predicated upon the use of javelins, iron bossed oblong shields, and open faced helmets with flexible cheek pieces, all of which appear to have been best suited to a flexible skirmish orientated style of warfare.

This argument stands in contrast to the traditional picture painted in the literary narratives and the majority of scholarly arguments to date which typically stress the uniqueness of the Roman military system. Indeed, for much of the twentieth century the studies pertaining to the military development in the western Mediterranean have tended to be very Roman-centric. A major contributing factor to this argument is the comparatively disproportionate amount of Italic evidence, particularly the Roman-centric literary accounts, which often stressed a sense of Roman military 'exceptionalism'. Moreover, to date the Italian peninsula has provided the most widely publicised archaeological evidence pertaining to military equipment from the western Mediterranean for this period. This evidence has been

¹ All dates are B.C. unless otherwise specified.

² Italic mercenaries: Diod. Sic. 13.44.2, 80.4, 85.4, 87.1, 88.1-4, 110.1-7; 14.8.5, 9.2, 58.2, 61.4-6

Celtic mercenaries: Diod. Sic. 15.70.1; 20.11.1, 64.2; 22.12.1; Plut. *Pyrrh* 26.1, 30.1, 32.1-2; Xeno *Hell.* 7.1.20, 31

Iberian and Celtiberian mercenaries: 13.80.2, 85.1, 87.1, 110.1-7; 15.70; 16.73.3; Plut. *Timo* 28.6; Xeno *Hell.* 7.1.20

Greek mercenaries: Diod. Sic. 14.10.1-4, 44.2; 16.66.2, 78.3; 20.11.1, 40-43; Plut. *Dion* 22.4, 28.4; Polyaneus 5.8.2

predominantly found in wealthy Italic funerary contexts in such sites as Paestum, Orvieto, and Tarquinia and unfortunately outside of the Italian and Spanish peninsulas comparable paintings from other western Mediterranean cultures are rare. Indeed, iconographic representations of Carthaginian and Syracusan weaponry remains very scarce and when combined with a similar dearth of physical weaponry renders any isolated studies into their military development problematic. Consequently, the lack of literary and archaeological evidence pertaining to Carthaginian, Celtic, Iberian, Celtiberian, and Syracusan armies, and the socio-political power dynamics at work within them, has resulted in them being relatively under-studied. Thus, as scholarly arguments have tended to follow the Roman-centric literature, which accentuated a sense of the 'Other,' soldiers who did not fight in Roman armies have been for the most part perceived as employing different military equipment and tactics. Consequently, the Roman military system and the way in which Rome extended its hegemony has tended to be viewed as being exceptional and as having developed in isolation from the wider western Mediterranean, as opposed to having occurred in conjunction with it.

Without access to the present corpus of archaeological evidence, early twentieth century German scholars such as Hans Delbrück, Johannes Kromayer, Eduard Meyer, and Georg Veith argued based on the extant literary model of Roman military 'exceptionalism.'³ As a result they perceived the Roman army of the fourth and third centuries as similar to the highly organized, homogeneously equipped armies of the Late-Republic – Early Empire. Consequently, this German model served to emphasise the uniqueness of the early-Republican armies and subsequently formed the basis for many modern arguments concerning Rome's military in the fourth and third centuries. More recently, Peter Connolly, Arthur Eckstein, Plinio Fraccaro, Lawrence Keppie, and Kurt Raaflaub have refined this model, and postulated a series of dates for the Roman manipular reforms between 406-311, which they associated with the birth of Rome's military exceptionalism.⁴ However, these dates are again heavily reliant on literary evidence to support their arguments, whilst Adrian Goldsworthy, in particular, has argued that by the Punic Wars, Rome had already adopted

³ (Delbrück 1990) pp.272-296; (Kromayer 1928b) pp.288-373; (Meyer 1924) pp.231-285

⁴ (Eckstein 2006) p.145; (Fraccaro 1975) pp.41-58; (Keppie 1998) pp.19-20; (Raaflaub 1996) p.297; (Cornell 1995) p.354 implies this.

the manipular system.⁵ However, the question remains what did the manipular system evolve from?

Since the turn of the twenty first century, a number of scholars have begun to reassess these views and have increasingly adopted a more critical approach to the literary narratives and the arguments predicated upon them. For example, Michael Burns, Gary Forsythe, John Rich, Louis Rawlings, Nathan Rosenstein, Fernando Quesada Sanz, and Michael Sage collectively re-examined the literary narratives describing Roman military development during the fourth and third centuries.⁶ Collectively, they argue against the traditional narratives that portrayed the manipular reforms as occurring instantaneously and instead argue that Roman military development should be viewed as evolving in a gradual and piecemeal way. Consequently, the previous models of classical warfare in the western Mediterranean have begun to be abandoned by some scholars in favour of a more critical approach that acknowledges the nuances of ancient societies and the warfare they engaged in. These arguments have been aided by the publication of the wide range of iconographic and physical evidence which illustrates that, during the fourth century, Roman weaponry was not as homogenous, nor were their unit formations and battlefield tactics as unique as once thought.

This thesis will critically discuss a wide range of military equipment finds and types from across the western Mediterranean in order to illustrate how the supposedly different Carthaginian, Roman, and Syracusan armies actually fought with remarkably similar tactics and weaponry. Indeed, it is the intention of this thesis to illustrate that by the outbreak of the First Punic War (264) the Carthaginian, Roman, and Syracusan military systems were surprisingly similar because they were part of a wider military *koine* that had been steadily developing from the fifth century onwards. This thesis will also contend that during the fourth and third centuries the tactical organization of Roman units did not necessarily differ from their western Mediterranean contemporaries, nor were they easily delineated as represented in the anachronistic literary narratives written centuries later (Livy 8.8; Polyb. 6.21-23).

⁵ (Goldsworthy 2001) pp. 36-62

⁶ (Burns 2003) pp.61-74; (Forsythe 2005) p.286; (Koon 2011) p.79; (Rawlings 2007b) pp.52-59; (Rich 2011) pp.16-20; (Rosenstein 2010) pp.299-301; (Quesada Sanz 2006) pp.245-252; (Sage 2013) pp.220-225

Furthermore, it will argue that Carthage, Rome, and Syracuse utilized a remarkably similar form of hegemony and the socio-political power dynamics at work within them also shared common characteristics, and that these helped to facilitate the development of the western Mediterranean military *koine*. The actual extent of Carthaginian, Roman, and Syracusan hegemony is a contentious argument, but for the purpose of this thesis, hegemony, will be used to describe a general sphere of influence that one polity was able to exercise over others. A key factor in the creation of this *koine* was the increasing frequency with which central and southern Italians, Celts, and to a lesser extent Celtiberian, and Iberians served as allied auxiliaries and mercenaries in the Carthaginian, Roman, and Syracusan armies from the fifth century until the end of the Second Punic war.⁷

The wide range of archaeological evidence now available strongly suggests that Celtic and Italic mercenaries were a major driving force in the development of a wider western Mediterranean military *koine*. In the northern Mediterranean, archaeological evidence suggests that the Celts of the La Tène I-II periods (c.400-100) were influential in spreading similar military equipment from Northern Italy across southern France and down into the Iberian and Celtiberian regions of the Spanish peninsula.⁸ These same military developments were then likely transported back westwards into Carthaginian and Syracusan armies through mercenary service in North Africa and Sicily. Whilst in the southern Mediterranean, the presence of Italic military equipment also suggests that central and

⁷App. *Hisp.*28; *Hann.*52; Diod. Sic. 13.44.2, 110.5, 14.8.5, 15.70, 16.73, 19.12, 20.11.1, 22.12, 25.2; Livy 21.21, 38-39, 48, 52, 59, 22.46-47, 24.15, 25.9, 27.38, 48, 28.46, 30.33; Frontin. *Strat.* 16.3; Livy 10.26; 21.22-23, 38,57,59; 27.38-39, 48, 28.36, 30.33; Poly 1.17.4, 19.2, 43.4, 48.2, 66.7, 2.67.7, 3.33, 113-115; Plut. *Dion.*27; *Pyrrh.* 16.10, 26.1, 30.1, 32.1-2; Xeno *Hell.* 7.12, 30.

For Mercenaries in Carthaginian armies see: (Ameling 2011) p.49;(Connolly 1981) p.148; (Goldsworthy 2001) pp.32-33; (Hoyos 2010) p.157; (Lazenby 1996) p.46; (Picard 1968) p.168; (Salimbeti 2014) pp.21-22; (Scardigli 2011) p.33; (Scullard 1989) p.20; (Scullard 1990) p.495; (Warmington 1969) p.121, 126.

For Mercenaries in Syracusan armies see: (Champion 2010) p.18, 25, 101; (Cunliffe 1997) p.76, 143; (Ellis 1997) p. 52, 93; (Frederiksen 1984) p.106, 139, 143; (Hannah 1990) pp.275-276; (Lewis 1994) p.129, 131;(Lomas 2006) pp.111-112; (Meister 1984) p.407; (Parke 1933)p.68, 71, 88; (Westlake 1994) p.708; (Zambon 2008) p.37, 45, 66,268.

For central and southern Italians in Roman armies see: (Cornell 1995) pp.367-377; (Erdkamp 2006) p.283; (Frederiksen 1984) p.106; (Forsythe 2011) pp.36-37; (Goldsworthy 2001) p.39, 49; (Koon 2011) p.79; (Lomas 2006) p.103; (Patterson 2006) p.610; (Rawlings 2007b) pp.46-48, 50-52; (Sage 2013) p.224

⁸For Celtic influence in the Spanish Peninsula see: (Quesada Sanz 1997b) P.257,259, 262-266; (Quesada Sanz 2011a)pp.140-156; (Quesada Sanz 2011c) pp.214-216, 222, 225, 227

For Celtic influence in Northern Italy see: (Bishop 2006); (Burns 2003) p.64; (Connolly 1981) p.99; (Ellis 1998) p.87,91; (Paddock 1993) p.469,482-483; (Schneider-Herrmann 1996) pp.45-46 (Small 2000) p.230; (Stary 1979) p.187, 198-201; (Tomczak 2012) p.47, 56 fig9, 57 fig.10;

southern Italians provided a similar vehicle for transmitting military technology through their frequent service in Carthaginian, Roman, and Syracusan armies.⁹

With regard to tactics, this thesis will also argue against Roman exceptionalism, particularly in relation to the advent of the manipular legion described by Livy and Polybius in the fourth century (Livy 8.8; Polyb. 6.21-23). It will instead seek to support and build upon Fernando Quesada Sanz' and Ted Lendon's models of a "cloud/cluster" battlefield unit as the most common tactical unit across the western Mediterranean.¹⁰ The 'cloud' consisted of a mixture of light and heavy troops, which was able to expand or contract like fingers from clenched fist depending on the particular phase of battle.¹¹ This flexible tactical unit formation stands in stark contrast to the supposedly rigid maniples of the later Roman manipular Legion with its division of specialised troop types (*velites*, *hastati*, *principes*, *triarii*) and its seemingly well-defined three lines of infantry (*triplex acies*) in a *quincunx* (checkerboard) formation (Livy 8.8; Poly. 6.21-23). The literary sources also problematically attributed the adoption of the manipular legion to a variety of dates between 406-311 and this assumption has been upheld by several modern scholars who generally have attributed its adoption to sometime during the Samnite wars (Dion. Hal. *Ant Rom.* 14.9; Livy 4.59; Plut. *Cam.* 40.4).¹² This thesis contends that the literary accounts detailing military development during this period are anachronistic and as such cannot be relied upon as accurately portraying the nuanced details of warfare in the fourth and third centuries. Rather, the presence of similar archaeological evidence from across the western Mediterranean, together with a similar light handed extension of hegemony and socio-political power dynamics, suggests that heterogeneous Carthaginian, Roman, and Syracusan armies were, for the most part, not fighting with radically different equipment and tactics.

In order to support these conclusions this thesis will critically examine and analyse the problematic and often anachronistic literary narratives provided by the primary sources, particularly those of Diodorus Siculus, Livy, and Polybius. Additionally, physical and iconographic archaeological evidence will be critically assessed from across contemporary

⁹ (Connolly 1981) p.111, 150; (Salimbeti 2014) p.37

Also see: App. *Hann* 8.31; Diod. Sic.13.44.2, 80.4, 85.4, 87.1, 88.1-4, 110.1-7; 14.8.5, 9.2, 58.2, 61.4-6; Dion. Hal. *Ant. Rom.* 9.22; Polyb. 3.107.12, 6.26.7, 30.2; Livy 2.49.4, 9.30.3; Plut. *Dion* 27.1

¹⁰(Lendon 2005) pp.179-191; (Quesada Sanz 2006) pp.245, 258-263

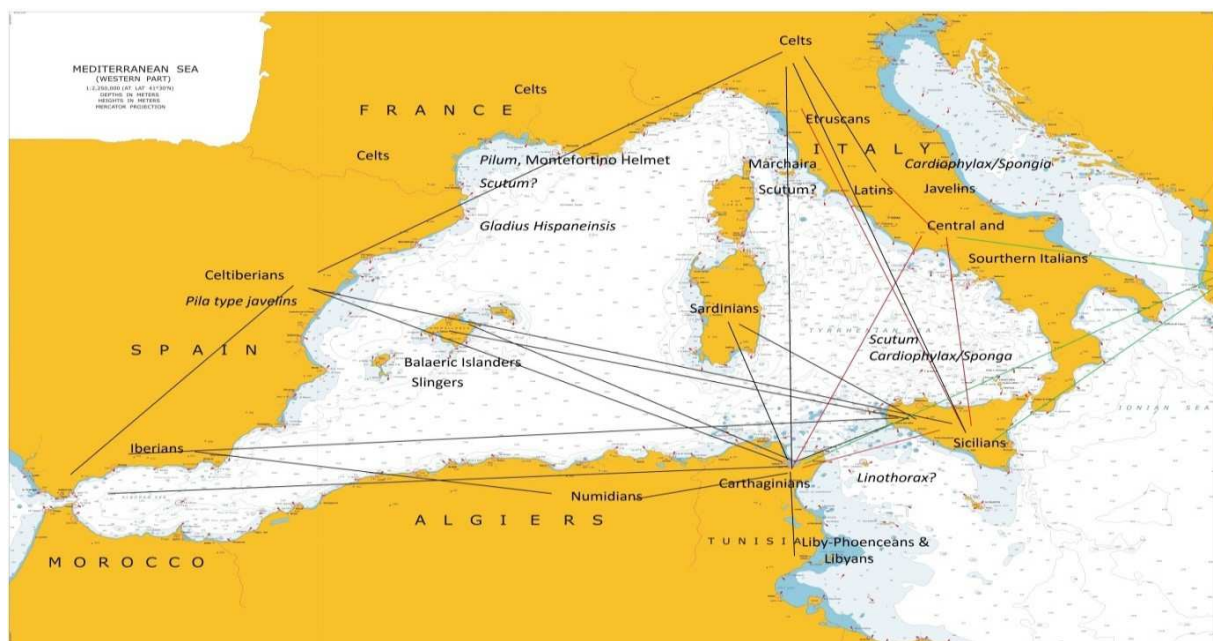
¹¹ (Quesada Sanz 2006) pp.245, 258-263

¹² (Adcock 1928) p.601; (Keppie 1998) pp.18-19; (Potter 2004) pp.70-73; (Salmon 1967) p.232,236

western Mediterranean cultures and regions that interacted with each other militarily during this period including the; Carthaginians, Celts, Celtiberians, Etruscans, central and southern Italians, Italiote Greeks, Iberians, Greeks, Latins, Libyans, Libyphoenicians, Numidians, Romans, and Sicilians.¹³

1.2. *The western Mediterranean panoply:*

The purpose of the following three sections is to provide a basic overview of western Mediterranean military equipment, tactics, and hegemony during the fifth to third centuries. They will briefly illustrate that during this period soldiers throughout the western Mediterranean were contemporaneously developing and fighting with remarkably similar panoplies, which appear to have been utilized in a common form of flexible and predominantly skirmish orientated warfare. The intention is also to highlight the similarities between Celtic, Celtiberian, Iberian, Italic, and North African weaponry and to further suggest that these soldiers did not operate in vastly different tactical units.



Two way military interactions across the western Mediterranean (Authors own map)

¹³ Central and southern Italians will be used as an encompassing term for the Osco-Umbrian speaking communities of the central and southern Italy such as the four major Samnite tribes; Caraceni, Caudini, Herpini, Pentri, in addition to; Apuli, Alfaterni, Aurunci, Aequi, Bruttii, Campanians, Hercini, Fallisci, Frentani, Lucani, Marsi, Messapii, Paeligni, Picentes, Sabini, Sidicini, Umbrians, Vestini, and Volsci.

Javelins:

The weight of physical and iconographic evidence suggests that javelins, together with spears constituted the dominant offensive weapons in the western Mediterranean throughout antiquity.¹⁴ Javelins varied widely in shape and size, but they can be distilled into two broad categories; the shanked javelin which is commonly attested in the northern regions of the western Mediterranean and the shankless javelin which evidence suggests was more widely utilized in the south by Greeks, North Africans, and Sicilians.¹⁵

Archaeological evidence further suggests that the shanked javelin can be distilled into two distinct types. The heavy shanked javelin appears frequently in Etruria, Latium, and the Celtic occupied areas of modern day Austria, northern Italy, southern France, and Switzerland.¹⁶ The physical examples of these heavy shanked javelins discovered at Montefortino, Montericco, Monte Bibele, Latium, and Vulci, predate similar weapons in central and southern Italy (Plates 1-3).¹⁷ In southern Italy a lighter shanked javelin appears to have been preferred.¹⁸ Furthermore, a similar division of heavy and light shanked javelins also appeared in the Celtiberian and Iberian regions of the Spanish peninsula; the *falarica* and the solid iron *soliferrea* (App. *B Civ.* 5.82). The former Livy associated as proto-*pila* and bears common characteristics with the Celtic and Italic heavy shanked javelins (Livy 21.8).¹⁹ There is no evidence as yet to indicate that the shanked javelin was developed in contemporary Greece, North Africa, and Sicily. Indeed, archaeological evidence seemingly indicates that the shankless javelin was the common javelin amongst Greeks, North Africans, Numidians, and Thracians (Sil. *Pun.* 3.250; Xen. *Hunt.* 10.3).²⁰

¹⁴ (Burns 2006) pp. 174-186; (Connolly 1981) pp. 95-119; (Quesada Sanz 2011c) pp. 207-232; (Small 2000) pp. 231-232; (Tomczak 2012) p. 45

¹⁵ (Brunaux 1987) p. 91; (Cunliffe 1997) p. 94; (Ellis 1998) p. 100; (Goldsworthy 2001) p. 31, 57; (Hoyos 2015) p. 21; (Quesada Sanz 2011c) p. 209, 214, 234; (Rawlings 2007b) p. 54; (Sage 2013) p. 218; (Small 2000) p. 221, 226; (Stary 1979) pp. 184-197

¹⁶ For the purposes of this thesis, the terms Celt and Celtic will refer to the tribes and peoples living in the Po Valley as well as modern day Austria, France, Switzerland who shared cultural and linguistic bonds.

¹⁷ Burns notes that there was a lighter shanked javelin type in use in southern Italy from the fifth century as well, but this should not be confused with the heavier Celtic/Northern Italian version. (Connolly 1981) p. 92. fig. 14, 98 fig. 9; (Lejars 2008) pp. 127-128, 140-142, 146-147, 167-157 fig. 5A, 6, 9; (Small 2000) pp. 224-226; (Tomczak 2012) 56 fig. 9, 57 fig. 10

¹⁸ (Small 2000) p. 231

¹⁹ (Connolly 1981) pp. 150-151. 150 fig. 1-2; (Gabriel 2002) p. 200; (Lazenby 1996) p. 26; (McCartney 1912) p. 76; (Quesada Sanz 2011c) p. 211; (Salimbeti 2014) p. 3

²⁰ (Connolly 1981) p. 49, fig. 1; (Lendon 2005) p. 95; (Salimbeti 2014) p. 38; (Wary 1980) p. 50

Spears:

The heavier thrusting spear constituted one of the main forms of offensive weaponry in the western Mediterranean and it appears in the archaeological record with relative frequency.²¹ Throughout the western Mediterranean thrusting spearheads can differ in size and shape rather dramatically, consequently it is difficult at times to identify what exactly is a spear or a javelin head.²² Some of these spears can be discerned as thrusting spears due to the size of their heads and, at times, the presence of a spiked butt (*sauroter*). The presence of heavy spears likely suggests that, although the javelin may have become the dominant weapon in the western Mediterranean, some soldiers expected to engage in melee combat (potentially in addition to skirmishing). What is interesting is that there are numerous depictions of heavily armed warriors carrying two-spears, which may indicate that it was common for soldiers armed with thrusting spear to also carry a lighter possibly dual-purpose spear or javelin into battle so that they could still effectively participate in the exchange of missiles (Plates 4-6).²³ This is seemingly corroborated with archaeological evidence from southern Italy where there are tombs containing, or depicting both a heavy spear alongside a lighter spear or javelin.²⁴

There is also ample evidence indicating that a multi-purpose throwing and thrusting spear was popular in the Italian peninsula.²⁵ Indeed, the *hasta* from which the *hastati* of the Roman manipular legion derived their name is described as being designed for use as multi-purpose weapon (Polyb. 6.23). Furthermore, it appears that whilst the heavy and light shanked javelins were popular in Etruria, Latium, and southern Italy the multi-purpose spear was the weapon of choice amongst the peoples of the central Apennines.²⁶ The multi-purpose spear was likely to have been a popular weapon for many soldiers in the western Mediterranean because, although warfare may have been predominantly skirmish orientated, it still retained the potential to escalate into melee encounters where such a

²¹(Brunaux 1987) p.91; (Burns 2006) pp .174-186; (Connolly 1981)pp. 95-119; (Quesada Sanz 2011c) pp. 207-232; (Small 2000) pp. 231-232; (Tomczak 2012) p.45

²² (Brunaux 1987) fig.39; (Burns 2006) p.177; (Small 2000) p.231

²³ (Burns 2006) pp.189-190; (Small 2000) p.225

²⁴ (Burns 2006) Tomb 421 Branzi p.185, Tomb 53 Andriulo, Paestum 190 (Small 2000) p.225

²⁵ (Burns 2006) p.181-182; (Small 2000) p.231

²⁶ (Small 2000) p.231

weapon would have been useful. This then may account for the frequent depiction of soldiers equipped with two spears such as on the Văce Clasp and Arnoaldi situla (Plate 6).²⁷

Swords:

Archaeological evidence suggests that swords in the western Mediterranean conformed to two dominant types; the single edged cutting and thrusting sword (*antennae*), and the single edged curved slashing sword (*falcata*, *kopis*, *machaira*). However, it appears that by the fourth century the *antennae* sword had become the dominant sword in the western Mediterranean. Indeed evidence indicates that there was a remarkable similarity in design and length (c.60-70cm) among contemporary Celtic, Italic, and North African examples until the emergence of the La Tène II culture (c.250).²⁸ Single edged curved swords potentially present another example of military interaction leading to assimilation and adoption of military equipment in the western Mediterranean. These swords are rarely found outside of Etrusco-Latin, Graeco-Macedonian, or specific Iberian contexts in the western Mediterranean.²⁹ Thus, it is possible that the Iberians initially encountered *falcata* type weapons during their service with Italic and Greek mercenaries in Carthaginian and Syracusan armies in Sicily. Consequently, the *falcata* potentially illustrates another example of a military interaction resulting in a transmission of weaponry in the western Mediterranean.

Helmets:

Evidence indicates that, although western Mediterranean helmets demonstrate distinct regional variations, they can be broadly distilled into two general categories; open faced helmets with cheek pieces such as the Etrusco-Thracian, Samno-Attic, and Montefortino and open faced helmets without cheek pieces such as the Negau and *pilos* types (Plates 7-11).³⁰

²⁷ (Connolly 1981) p.103 fig.12,13

²⁸ (Bishop 2006) p.56; (Burns 2006) p.195; (Connolly 1981) p.116 fig.1-8; (De Navarro 1972) Pl. 1-3; (Hubert 2006) pp.88-90; (Quesada Sanz 2011a) pp.151-152; (Quesada Sanz 1997b) p.262-264; (Quesada Sanz 2011c) p.211, 218

²⁹ (Burns 2006) p.194; p.63, 77, 78 fig.2, 98 fig. 12-13, 107 fig.7; (Quesada Sanz 2011c) p.49;

³⁰ (Connolly 1981) pp.96-112, 121,122; (Paddock 1993) Etrusco-Thracian pp.320-365; Negau pp.174-265; Montefortino pp.469-600; Pilos p. 365-400, Samno-Attic pp.400-469; (Salimbeti 2014) p.33, 34, 40

Furthermore, like javelins and shields, the contemporary development of these remarkably similar helmet types appear highly suited to the demands of warfare dominated by missile-based skirmishing that retained the potential for melee combat.

Archaeological evidence further suggests that, by the end of the third century the Montefortino had become dominant helmet type in the western Mediterranean, appearing frequently in Carthaginian, Iberian, and Celtiberian contexts.³¹ The development of these similar helmets and the eventual widespread adoption of the Montefortino helmet suggest that soldiers in the western Mediterranean were participating in a common style of warfare that primarily revolved around missile orientated skirmishes, where the retention of peripheral vision was important.³²

The apparent speed with which the Montefortino was adopted must be contextualised within a larger picture of Celtic, and Italic development of open faced bronze helmets with flexible or fixed cheek pieces such as the Samno-Attic and to a lesser extent the Etrusco-Thracian. It must be noted that there are only three examples of Etrusco-Thracian helmets that have been found with cheek pieces, however it appears that they could be fitted.³³ The hinged cheek pieces could be tied alongside the head, which allowed the soldiers to retain their peripheral vision, and could also be tied down to protect the face from blows if the encounter escalated into melee combat. The Samno-Attic and Etrusco-Thracian helmets evidently developed concurrently with the Montefortino, and their similar design, and presumably functional purposes matched those sought by contemporary Italic warriors, who were utilizing comparable equipment and tactics. Consequently, the suitability of the Montefortino helmet for skirmish orientated warfare resulted in it becoming rapidly adopted throughout the Italian peninsula and ultimately the western Mediterranean.

Shields:

Shields in the western Mediterranean also demonstrate a degree of regional variation and as previously noted they, like the shanked javelin and Montefortino helmet, appear to have

³¹(Burns 2003) p.64,70,73; (Connolly 1981) pp. 121-122 (Paddock 1993) p.470; 473-484, 487 fig.125 (Quesada Sanz 2011a) p.156; (Quesada Sanz 2011c) p.216; (Salimbeti 2014) p.40

³²(Paddock 1993) p. 487, 498-506 tlb.3, 797

³³ (Paddock 1993) pp.345-346

become largely standardized by the end of the Second Punic War. For example, during the third century the iron bossed oblong shield appears to have become the dominant shield type in the western Mediterranean and is well attested in Carthaginian, Celtic, Celtiberian, and Italic contexts (Plate 12).³⁴ Whilst the circular *clipeus* or *hoplon* shield is also attested in Italic contexts in the fourth century, it appears with less frequency thereafter, although iconographic evidence suggests it remained popular amongst some North African soldiers (Plate 13).³⁵ Furthermore, a similar sized circular shield (without the *antilabe* and *porpax*) together with a smaller buckler type shield (*caetra*) appeared to have been a popular in Iberia during the early fourth century but, like the *hoplon*, they appear to have begun to be largely replaced by the oblong shield during third century (Plate 14).³⁶

The widespread adoption of the oblong shield during the fourth and third centuries may have occurred because it offered greater protection from missiles than offered by the circular shields (Livy 9.19; Polyb. 6.23).³⁷ The horizontal hand grip of the oblong shield would have enabled soldiers to punch the shield outwards, and wield it at arm's length. This level of manoeuvrability increased the empty space between the soldier's body and his shield, which would have increased its effectiveness against missile weapons (Polyb. 6.23).³⁸ The widespread adoption of the iron bossed oval or rectangular wooden shield coincides with the widespread utilization of javelins, or dual-purpose spears. Thus, it is likely that the oblong shield constituted an effective defensive weapon against enemies armed with shanked javelins, the design of which indicates a penetrative purpose, akin to the medieval bodkin arrow.³⁹ Although it cannot be proven whether the shanked javelin or the oblong shield has developmental primacy, there remains a high possibility that the shanked javelin was designed primarily to negate the increased space created between man and the oblong shield. This development may correspondingly account for the seemingly tandem

³⁴ (Bishop 2006) pp.61-62; (Burns 2006) pp.157-161; (Connolly 1981) p.95,95 fig.1,2, 103,107, 109 fig.1, 118-119 fig.3,4,5, 150 fig. 11,12,14,16; (Cunliffe 1997) p.p.96-97; (Hubert 1934) pp.92-93; (Quesada Sanz 2011c) p.215, 221-227; (Salimbeti 2014) pp.28,29,36; (Stary 1979) p.200, Pl 26

³⁵ *Clipeus* will be used to denote the circular shield equipped with a *antilabe* and *porpax* in Italic contexts, whilst *hoplon* will be used to denote the shield in non-Italic contexts. (Connolly 1981) p.147; (Burns 2006) p.161; (Salimbeti 2014) p.21-22, 35-36

³⁶ (Quesada Sanz 2011c) p.213,227

³⁷ (Burns 2006) p.157, 233; (Connolly 1981) pp.120, 150-151, (Hubert 2006) p.92; (Rawlings 2007b) p.58; (Quesada Sanz 2011c) pp.220-221; (Stary 1981b) p.287

³⁸ (Burns 2003) p.75; (Quesada Sanz 2011a) p.142

³⁹ (Bishop 2006) p.51 (Burns 2006) p.186

development and eventually widespread adoption of shanked javelins and the oblong shield across large parts of the western Mediterranean by the end of third century.

Cuirasses:

Archaeological evidence suggests that from the end of the fifth century onwards, body armour in the western Mediterranean was primarily light weight and appears to have allowed the soldiers considerable upper body manoeuvrability. This evidence, particularly from the Italian peninsula, suggests that between the fourth and third centuries the three most commonly attested pieces of body armour were; the bronze square/ rectangular breastplate (*cardiophylax*) which was suspended over the chest by a leather harness, the Italic triple disc cuirass (*spongia*) consisting of three bronze discs joined together and protected both the front and back of the soldier's chest and a cuirass constructed of layers of dense linen (*linothorax*) which protected the entire torso (Plates 15-19, 21-22).

The development and transmission of light body armour, like shanked javelins and open faced helmets with cheek pieces, suggests that a high degree of exchange with regard to military equipment was occurring in the western Mediterranean from the fifth century onwards. Moreover, it appears likely that this transmission of military equipment was facilitated by the increasing numbers of heterogeneous armies fielded by states like Carthage, Syracuse, and Rome, particularly in the fourth century. For example, a *spongia* dated between the fourth-third centuries and most likely produced in Campania, was discovered at Ksour es Saf in Tunisia. This *spongia* is strikingly similar to a number of examples represented in artistic ware and tombs in central and southern Italy (Plate 18).⁴⁰

The heavier bronze Greek and Italic muscled cuirass still appears in the archaeological record during the fourth century, but becomes increasingly rare thereafter (Plates 19-20).⁴¹ This potentially suggests that, although there was a growing trend towards lighter body armour suited to skirmishing, some soldiers may have retained heavy body armour and as such may not have participated in the skirmishing phases of battle. Presumably these

⁴⁰ (Burns 2003) p.71-72, 79 fig.7; (Burns 2006) pp.56-79, 293-305, 351-357; (Connolly 1981) p.108, 110, 111; (Salimbeti 2014) p.35; (Salmon 1967) p.130

⁴¹ (Connolly 1981) pp.98, 100 fig.4, 109, 110 fig.8; (Burns 2006) pp.82-101, 306-320; (Salimbeti 2014) pp.32-33

heavily armed soldiers represented the wealthier sections of society and as such did not constitute the majority of troops on the battlefield. If they did appear on the battlefield in large numbers without supporting light troops, they would have been extremely vulnerable to large numbers of lightly armed skirmishers as the Spartans discovered at Sphacteria (Thuc. 4.32-36).

Summary:

In conclusion, physical and iconographic evidence suggests that the most common offensive weapons during the fourth and third centuries were javelins (both shanked and shankless), multi-purpose spears, and thrusting spears, with the sword being a specialist secondary weapon largely confined to the wealthy.⁴² Furthermore, iron bossed oval shields were adopted with an ever-increasing frequency, although there is evidence to suggest that large circular shields were also likely used by some soldiers.⁴³ In terms of body armour the *spongia* and its simpler predecessor the *cardiophylax*, together with the linen cuirass (*linothorax*) appear to have been the most prolific forms of body armour.⁴⁴ Helmets also appear to share remarkable similarities regardless of cultural or geographical origin. These open faced helmets when viewed in conjunction with the aforementioned arms and armour appear to indicate that warfare in the western Mediterranean was being fought in a more flexible and open formation where threats could come from multiple directions.

1.3. Western Mediterranean Tactics:

The archaeological dominance of javelins, spears, oblong shields, together with light relatively non-restricting body armour (*cardiophylax*, *linothorax*, *spongia*) appears to have facilitated a flexible 'cloud' based battlefield unit filled with a mixture of light and heavy

⁴² (Burns 2006) p.175; (Connolly 1981) 37-64, 91-121; (Goldsworthy 2001) pp.31-32, 57; (Quesada Sanz 2011c) pp.210-219; (Sage 2013) p.218; (Salmon 1967) p.110; (Small 2000) p.221,231; (Stary 1979) pp.198-201

⁴³ For Italic examples see: (Connolly 1981) pp. 94-96, 98 fig.3, 99-100 fig.4,5,7, 103; 119-120; (Hubert 2006) p.92; (Salmon 1967) pp.106-107; (Stary 1979) p.192, fig3, 197, pl.20

For Carthaginian examples see: (Connolly 1981) p.147; (Charles-Picard 1957) Pl. VI; (Salimbeti 2014) p.13, 21- 23, 36,58

⁴⁴ (Aldrete 2013) p.166; (Burns 2003) p.73; (Burns 2006) pp.55-79, 253-257, 292-306; (Champion 2010)p.60; (Connolly 1981) p.98 fig.3, 99, 101 fig.9-14, 108 fig.1, 111; (Gelba 2012) pp.45-46, 48-55 fig.5.2 -5.10; pp.28, 34-35; (Hannah 1990) p.272; (Salmon 1967) p.109; (Stary 1979) p.188-191 fig.4;

soldiers. This tactical unit would have then been able to facilitate extended skirmishes, but could also compress in order to face melee combat if required.⁴⁵ Corroborating archaeological evidence from across the western Mediterranean supports this theory and raises serious questions over the accuracy of the literary material and subsequent scholarly application of the manipular reform occurring in the fourth century. For example, in Livy and Polybius' account of the First and Second Punic Wars, the majority of engagements appear to have been minor skirmishes or raids, not grand and decisive set piece battles (Livy 22.9 9; 23.48; 23.46; 24.49; 25.32; 28.12.9; 29.36.4-12; 29.6; Polyb. 1.24.9; 1.25.6; 1.57.1-3).⁴⁶ If the general outlines of the events within these narratives are correct then it is possible that skirmishing constituted the primary form of military encounter, and may have occurred because soldiers were being utilized in a manner that best suited their equipment and tactics. Furthermore, the physical weaponry attested in the archaeological record, when viewed in conjunction with the lengthy duration of the three Samnite wars (343-341, 326-304, 298-290) together with the first two Punic Wars (264-241; 218-202) and the extended struggle between Agathocles and Carthage in Sicily and North Africa (311-307) suggests that, although decisive melee encounters like Crimisus (341), Heraclea (280), and Beneventum (275) could occur, extended skirmishes were likely the predominant form of western Mediterranean military encounters in the fourth and third centuries.

As previously discussed, the majority of twentieth century Roman historians tended to place the manipular reforms to sometime between 406-311.⁴⁷ These reforms have been traditionally associated with the standardization of infantry into the *velites*, *hastati*, *principes*, and *triarii*, in addition to the division of the army into the *triplex acies* and adoption of the *quincunx* (checkerboard) formation. However there are difficulties with associating the manipular reforms with these dates. For example, it appears that the *Ineditum Vaticanum* an anonymous work composed in the first century seemingly became the template, upon which historians such as Livy, predicated their understanding of the early Republican army (Livy 8.8).⁴⁸ The work noted that before the Samnite wars the

⁴⁵ (Koon 2011) p.83; (Quesada Sanz 2006) p.251; Lendon suggests this, but does not make it implicit: (Lendon 2005) p.172-191

⁴⁶ (Rawlings 2016)

⁴⁷ (Delbruck 1990) pp.272-296; (Kromayer 1928a) pp.288-373; (Eckstein 2006) p.145; (Keppie 1998) pp.19-20; (Meyer 1924) pp.231-285; (Raaflaub 1996) p.297; Whilst this is implied by (Cornell 1995) p.354

⁴⁸ *Ineditum Vaticanum* see: (von Arnim 1892) pp.119-122

Romans fought in a phalanx, and without the shanked javelin and oblong shield. This is problematic for two major reasons; first archaeological evidence from Etruria and Latium illustrates that the shanked javelin and oblong shield have been attested as far back as the eighth century and begin to appear with an increased frequency after the Celtic incursions of the fifth and early fourth centuries.⁴⁹ This evidence likely suggests that some Roman or Latin soldiers were utilizing the shanked javelin and the oblong shield before the outbreak of the Samnite Wars. Second, it has been widely debated whether the Etruscans or the Romans ever fought in a Greek styled phalanx.⁵⁰ Consequently, if the Etruscan and Roman adherence to a Greek styled hoplite phalanx can be disputed, on account of their social structure and available archaeological evidence, then it is similarly plausible to dispute that Carthaginian and Syracusan armies, who fielded large numbers of Celtic, Iberian, and Italic troops and whom are not mentioned as fighting in phalanxes, did so as well.

1.4. Carthaginian, Roman, and Syracusan hegemony:

The nature of Carthaginian, Roman, and Syracusan hegemony played an important role in the development of the western Mediterranean military *koine*. Although the precise forms of Carthaginian, Roman, and Syracusan hegemony could vary, it remained in essence very similar. For example, Roman hegemony usually revolved around the establishment of a military alliance which gave Rome access to the manpower of its allies, but they retained their local autonomy and civic institutions.⁵¹ Whilst, Carthaginian hegemony differed from Roman in a number of ways; for example they imposed a financial tax on their allied communities, colonies, and clients, the two systems appear to have shared certain characteristics.⁵² Carthaginian power in western Sicily was exercised through the *epikrateia*

⁴⁹(Burns 2003) p.75; (Connolly 1981) 92, fig.14, p.96 fig.1-3,98 fig.9; (Stary 1979) p. 184 fig.3, 200-204 Pl. 26-27

⁵⁰ (D'Agostino 1991) pp.59-82; (Harris 1990) p.508; (Momigliano 1963) p.119; (Rosenstein 2010) p.291, 294-300; (Smith 2006b) pp.286-290:

For an alternative view in which the Servian Roman army is postulated as fighting in two lines, one a true phalanx with the other consisting of lightly armed troops armed with a variety of weapons and armour see: (Connolly 1981) p.95; (Saulnier 1980) pp.105-115

⁵¹(Cornell 1995) p.349-352; 365 (Eckstein 2006) p.252; (Forsythe 2011) p.37; (Goldsworthy 2001) p.38; (Forsythe 2005) p.308; (Pallottino 1991) p.144; (Lomas 2014) p.201; (Oakley 1993) p.33; (Sherwin-White 1980) pp.47-58,73; (Wallace-Hadrill 1989) p.74

⁵² (Dyson 2007) p.117; (Hoyos 2010) p.41

system, a Greek term for a self-governing territory.⁵³ These communities, like Roman allies, maintained their own civic administration and no Carthaginian official was appointed as a provincial governor.⁵⁴ Despite the lack of evidence to indicate how Carthage exercised her hegemony over North Africa, it is highly probable that a similar civically and politically unobtrusive system was applied.

A similar lack of evidence as to the nature of Syracusan influence over her fellow eastern Sicilian communities unfortunately frustrates any direct comparisons with Carthaginian and Roman hegemony. Although Syracusan tyrants frequently interfered with the demographics of Sicilian communities through a combination of forced migration and the settlement of mercenaries, it appears that Syracuse, like Carthage and Rome, did not exercise direct control over the local governments or existing civic structures of Sicilian communities (Diod. Sic. 11. 49, 72-8; 14 .15, 58, 78, 96; 20.71).⁵⁵ Consequently, the common denominator in Carthaginian and Roman hegemony, appears to have been that they were relatively 'light handed', communities were given local autonomy and were not expected to conform to a uniform language and set of customs (although adherence to a general set of laws appears to have been utilized).⁵⁶ This light handed extension of hegemony appears to have been transferred to military service. For example, allied and mercenary units retained their own unit commanders and were expected to equip themselves. Indeed, the Roman army of the fourth century was a citizen militia in which individual soldiers were responsible for equipping themselves, they fought in their own units with their own low-level commanders and there is evidence to suggest that this was also true in Carthaginian and Syracusan armies (Diod. Sic. 19.21.1; Dion. Hal. *Ant. Rom.* 4.16-21; Livy 1.43; 25.34; 37.5; Plut. *Pyrrh.* 16.10).⁵⁷

As previously noted, a considerable number of the mercenaries in Carthaginian and Syracusan armies were either Celtic or Italic. Consequently as the fourth century progressed and Rome's hegemony came to encompass the entire peninsula south of the Po Valley, a large percentage of the potential manpower from these regions was incorporated into

⁵³ (Ameling 2011) p.49; (Hoyos 2010) p.49

⁵⁴ (Ameling 2011) p.51

⁵⁵ (Lomas 2006) pp.98-100 tlb.7.1

⁵⁶ (Ameling 2011) pp.47-51; (Bridoux 2014) p.186; (Cornell 1995) pp.295-297,349-352; (Eckstein 2006) pp.251-253; (Forsythe 2005) p.308; (Hoyos 2010) p.49; (Lazenby 1996) p.24

⁵⁷ (Bishop 2006) p.65; (Drogula 2015) p.27; (Drummond 1989) p.107; (Eckstein 2006) p.254; (Goldsworthy 2001) p.34; (Rawlings 2007b) p.52, 58; (Rich 2011) p.17; (Rosenstein 2005) p.29; (Scullard 1990) p.495

Roman armies. It is difficult to imagine that these soldiers, be they former or future mercenaries, would immediately abandon their existing military equipment and fight according to a strict Roman panoply and it appears a similar model can be also applied to those who fought in the Carthaginian or Syracusan armies.⁵⁸ Thus, the traditional model of Roman military exceptionalism appears open to further investigation. However, before this investigation can proceed the reliability of both the archaeological and literary evidence requires analysis in order to address and qualify their problematic nature.

Chapter Two: The Sources.

2.1. *The lost fourth century Historians of the western Mediterranean:*

The literary evidence for the western Mediterranean during from the fifth to third centuries is problematic. Firstly, there are no surviving Carthaginian, Celtic, Celtiberian, or Iberian literary accounts to counter the Greek or Roman-centric works of Diodorus Siculus, Livy, Plutarch, or Polybius. Without this evidence there are no alternate perspectives of their political and military systems. Indeed, apart from Aristotle's and Polybius' brief descriptions of the Carthaginian political system there is little else to go by (Arist. *Pol.*1272b-1273b; Polyb.51). Moreover, Aristotle likely gathered this information second hand and Polybius does not discuss it in any real detail. Furthermore, there are no Carthaginian sources detailing their military system and as such the main source of literary evidence on this subject between the fifth and third centuries appears in the works of Diodorus Siculus, Livy, and Polybius. Secondly, whilst there were a number of contemporary Greek and Sicilian historians such as; Ephorus of Cyme, Philistus of Syracuse, Philinus of Agrigentum, and Timeaus of Tauromenium who paid attention to the western Mediterranean, their original works exists only in fragments.⁵⁹ However, these works appear to have become the sources for later writers, whose works now constitute the major literary sources for the period covered in this thesis.⁶⁰ Finally, native Roman historiography only began during the later

⁵⁸ (Burns 2006) pp.232-246

⁵⁹ For Ephorus see: (Parker 2016); For Philistus see:(Pownall 2016); For Philinus see: (Champion 2016a)For Timeaus see: (Champion 2016b)

⁶⁰(Baron 2013) p.52,57-59, 63; (Champion 2011) p99; (Davidson 2009) p.123; (Dillery 2009) p.79; (Gabba 1991) p.62; (Goldsworthy 2001) p.22; (Hoyos 2007) p.263; (Mineo 2011)p.118; (Lazenby 1996) pp.2-3; (Rhodes 2007) pp.61-62; p.13; (Stylianou 1998); (Scardigli 1995) p.9, 62, 62, 64; (Von Wilamowitz-Moellendorf, 1995 #293) pp.67-68; (Walbank 1957) p.27

years of the third century with Fabius Pictor, although it is possible that Rome may have featured a historical consciousness previously.⁶¹ Although some Greek historians did record a small amount of the history of the Italic peoples, it appears to have remained sparse in comparison to their treatment of Greece, Sicily, and the eastern Mediterranean.⁶² Consequently, before the accuracy of the major surviving literary sources can be evaluated, the reliability of their sources they used requires inspection.

Timaeus:

Timaeus was a Sicilian exile and a contemporary of Agathocles and it appears that his work chronicling western Mediterranean events down to 289, particularly those in North Africa, Sicily, and to a lesser extent Italy, was widely utilized by later historians, particularly Diodorus Siculus, Plutarch, and Polybius even though he is subjected to criticism (Diod. Sic. 13.90.6-7; Polyb. 12.2-28a).⁶³ Polybius in particular was very scathing of his methods as he appears to have not interviewed people first hand, but gathered his evidence from books (Polyb. 12.25e.26-28). Whilst Timaeus seems to have carried an inherent bias against Agathocles, who forced him into exile, he remained a first-hand witness to the tyrant's rise to power and as an aristocratic Sicilian (albeit writing in Athens) was likely to have been well informed of the events surrounding the on-going Carthaginian and Syracusan conflict (Plut. *De exil.* 14.605C; Polyb. 12.25h.1, d.1).⁶⁴ Indeed, Timaeus appears to have been the primary source for Plutarch's life of Timoleon and Diodorus' account of the western Mediterranean between the fifth and third centuries.⁶⁵ Regardless of later historians' misgivings towards Timaeus, he also appears to have constituted the dominant literary source for Polybius' work in the years leading up to the First Punic War (Polyb.1.5.1).⁶⁶ Therefore, whilst Timaeus' works may have carried some flaws, particularly in regard to foreign geography and the nuances of military affairs, his widespread use by later historians suggests that his work was otherwise viewed as generally useful.

⁶¹ (Bispham. E.H. & Cornell 2013b) p.161; (Oakley 1997) p.22; (Ungern-Sternberg 2011) p.119

⁶² (Gabba 1991) p.15; (Ungern-Sternberg 2011) p.122,126

⁶³ (Baron 2013) p.18, 28-51; (Rhodes 2007) p.62; (Jacoby 1950) IIIb pp.539-46; (Pearson 1987) p.7; (Stylianou 1998) p.2, 52, 54, 62-65, 75; (Wilamowitz-Moellendorf 1995) p.67

⁶⁴ (Champion) BNJ 556 T 4b; BNJ 566 T 4c; BNJ 667 4e

⁶⁵ (Champion) BNJ 566 T 3b Commentary; (Stylianou 1998, Champion 2016b) pp.52-65

⁶⁶ (Champion 2011) p.99; (Walbank 1957) p.27

Ephorus:

Ephorus appears to have been used frequently by Diodorus, Plutarch, and Polybius (Polyb.5.33.2).⁶⁷ Indeed it appears that he, along with Timaeus provided the two major sources on the western Mediterranean between the fifth and third centuries, although unlike Timaeus, many ancient historians praised Ephorus for his knowledge (Diod. Sic. 4.1.2-3; Joseph. Ap. 1.67; Polyb. 5.33.2; 6.45.1; 12.28.10; Strabo 1.1.1).⁶⁸ Earlier modern scholars such as Jacoby and Wilamowitz-Moellendorf have tended to treat Ephorus harshly, but more recently Schepens and Parmigianni have argued for a softening of this view.⁶⁹ It seems as though Ephorus together with Theopompus of Chios adhered to a strict methodology which targeted educated readers and set the platform for assembling historical “compilations and summaries” like Plutarch.⁷⁰ Although it does appear that Ephorus was not at times as critical of his sources as he could have been, his accounts of military campaigns appear to have been adequately reported.⁷¹ For example, Polybius praised his accounts of the naval battles of Cnidus and Salamis (Cyprus) and Diodorus utilized his work regarding the interactions between Dionysius I and Sparta (Diod. Sic. 14.10; 44.2; 70.1-3; Polyb.12.25f).⁷² There are some chronological errors regarding events in Sicily, which may reflect either Ephorus’ error, or as appears more likely, be a result of Diodorus failure to revise his own work in which his chronology frequently errs.⁷³ Furthermore, Ephorus’ could be prone to exaggerating army and navy casualties and strengths, particularly when dealing with non-Greeks.⁷⁴ For example, his numbers of the Carthaginian invasion force of Sicily (409) numbered 200,000, which is double that given by Timeaus, whose numbers are generally accepted as more creditable (Diod. Sic. 13.54.5).⁷⁵ On the whole however, such discrepancies should be considered separately to the general events of his narrative, which

⁶⁷(Rhodes 2007) pp.61-62; (Scardigli 1995) p.14; (Stylianou 1998) p.52,62,75,80,84, 129

⁶⁸(Parker) BNJ T1 14A, BNJ 70 T13, BNJ 70 T8; (Pearson 1987) pp.34-35; (Stylianou 1998) p.123

⁶⁹(Jacoby 1950) IIA 70, IIC pp.23-30; (Luraghi 2014) p.147; (Parmeggiani 1999) pp.111-115; (Schepens 1977) pp.106-110; (Tully 2014) p.153; (Wilamowitz-Moellendorf 1908) p.10

⁷⁰(Gabba 1991) p.62; (Scardigli 1995) p.13

⁷¹(Stylianou 1998) p.121,124-132

⁷²(Stylianou 1998) p.125

⁷³(Stylianou 1998) pp.136-137

⁷⁴(Parker) BNJ 70 F 201 Commentary

⁷⁵(Parker) BNJ 70 F 201; (Stylianou 1998) p.62

was unlikely to have been so widely employed and praised if it was considered sub-standard.⁷⁶

Philistus:

Philistus was a native of Syracuse and also a contemporary of Dionysius I, and a close confidant of the Dionysius II who wrote a history of Sicily, the *Sikelika* (Cic. *De or.* 2.57; Dion. Hal. *Pomp.* 11.5.1; Diod. Sic. 13.91.4).⁷⁷ He was also entrusted with commanding the fleet during Dionysius II's struggle with Dion and thus it appears likely that his work deemed sufficiently creditable to be utilized by Plutarch for his works on Dion and Timoleon (Diod. Sic. 16.11.3, 16.1-4; Plut *Dion* 25.2, 35.3-4).⁷⁸ Additionally he probably provided the evidence for Campanian mercenaries in Sicily, which in turn appears to have been used by Ephorus and Timeaus, both of whom Diodorus later drew upon (Diod. Sic. 13.44.1; 13.62.5; 13.80.4).⁷⁹ Whilst ancient historians were somewhat divided over Philistus' precise worth as a historian due to his compositional style, support of tyranny and his failure to record military numbers, it does appear that on the whole he was regarded as a fairly reliable historian.⁸⁰ His close proximity to Dionysius I and II as well as his direct involvement in Syracusan affairs likely rendered him a reasonably accurate source regarding events in Sicily during the late fourth to mid-third century (Diod. Sic.15.89.3; Plut. *Nikias* 19.5).

Fabius Pictor:

Fabius Pictor was the first Roman historian and composed his work in the late third century.⁸¹ He was a member of the prominent Roman *gens*, the *Fabii*, whose ancestors included M. Fabius Maximus Rullianus a "hero" of the Samnite wars, whilst he himself

⁷⁶ (Stylianou 1998) p.129

⁷⁷ (Pearson 1987) p.79 (Pownall) BNJ 556 T 3 Commentary & Biographical Essay; (Rhodes 2007) p.62; (Scardigli 1995) p.13

⁷⁸ (Gabba 1991) p.62;(Jacoby 1950) IIB 556; (Pownall) BNJ 556 T 9c Commentary; (Scardigli 1995) p.13;

⁷⁹(Stylianou 1998) p.62

⁸⁰ For the debate amongst Philistus value amongst ancient historians see: Cic, *QFr.* 2.11.4 BNJ 556 T 17a; Dion. Hal. *De imit.* 9.3.4-8 BNJ 556 T 16a; *Pomp.* 5.4 BNJ 556 F 5, also see Commentary; Dion. Hal., *Pomp.* 11.4.1-5.6 BNJ 556 T 16b; Plut. *De Herod.* 3.855c BNJ 556 T 13b; Quint. *Inst.* 10.1.74-75 BNJ 556 T 15 c; Theon, *Progymnasmata* 80.30-32 BNJ 556 T 20b; All quoted from (Pownall);(Pearson 1987) pp.24-25

⁸¹ (Bispham. E.H. & Cornell 2013b) p.161; (Cornell 1995) p.5; (Oakley 1997) p.22; (Ungern-Sternberg 2011) p.119

reportedly fought at Telamon (Etrop. 3.5; Oros. 4.13.6).⁸² Thus, Pictor likely conveyed within his works some degree of accuracy in regards to Rome's military operations during the fourth century and third centuries. Pictor would also have had access to his family's oral histories which, although they held potential distortions, provided the broad outlines of events such as victories and names of generals.⁸³ Additionally, he likely had access to the *Annales Maximi*, the priestly records which recorded key public events and the names of magistrates which provided a base of evidence that was unlikely to have been contaminated for later historians to draw upon such as Polybius and Livy.⁸⁴ Indeed, Polybius stated that Pictor and Philinus of Agrigentum provided the best accounts for the years immediately leading up to the First Punic war and that they were also likely to have formed the basis of Diodorus' now fragmentary account of the period (Polyb. 1.14-15).⁸⁵

Summary:

Therefore, it is likely that the basis of evidence for the later historians, whose accounts now constitute the most coherent works regarding the western Mediterranean between the fifth and third centuries, were at times generally useful, particularly in regard to the broad outline of events and the heterogeneous composition of the armies fighting in North Africa and Syracuse. As useful as these works appear, it is important to now analyse the later historians and how diligently they themselves used this information.

2.2. Surviving Sources:

Polybius:

Polybius wrote his histories in the first half of the second century and provides the fullest description of the Roman military system during the middle Republic (Polyb. 6.19-42).⁸⁶ While Polybius composed his work close enough to the Second Punic War to have been able

⁸² (Bispham. E.H. & Cornell 2013a) p.33

⁸³ (Mineo 2011) p.111

⁸⁴ (Bispham. E.H. & Cornell 2013b) p.161-163, 169 (Rich 2013a) p.142-158

⁸⁵ (Dillery 2009) p.79; (Rich 2013b) p.114; (Stylianou 1998) p.9

⁸⁶ (Astin 2008) pp.3-4; (Champion 2011) p.96; (Goldsworthy 2001) p.20; (Hoyos 2015) pp.281-282

to speak with its participants, he would have had to rely on second hand evidence for the period 350-264. It appears that while Polybius utilized generally reliable sources for this such as Ephorus, Philinus, Pictor, and Timeaus, he was not shy of criticising them where he felt they fell short of his own standards, (something he did not always live up to himself), but which included a heavy reliance on direct inquiry (Polyb.12.2-28a; 12.4c.7-8).⁸⁷ Indeed, as mentioned he was scathing of Timeaus and dismissed Ephorus' account of the battle of Mantinea as illogical, which as a former *hipparchus* for the Achaean League, was quite possibly correct (Polyb. 12.25.3-5).⁸⁸

Polybius focused his work from 264 onwards and consequently the first-hand interviews he conducted and geographical sightseeing are of marginal importance when investigating the fourth century (Polyb. 3.33.34-43, 56.1-12; 12.4c.7-8). Despite this, as previously stated, military technology developed slowly in the western Mediterranean particularly between the fifth and second centuries. Thus, some aspects of Polybius' accounts of Carthage, Rome, and Syracuse's military forces from the mid-third to mid-second centuries may be applicable to the fourth century (although this thesis will argue his description of the manipular legion for this period is anachronistic) (Polyb. 6.19-42). Therefore, Polybius can be considered a fairly reliable source of evidence from the later third century onwards in regard to military matters, but less so before then. Additionally, his close association to the *Scipiones* who were at the forefront of Roman politics and military operations during the Punic Wars renders him a competent source from which to draw a picture of Rome's political structure and how it operated.⁸⁹ Consequently, while Polybius' work did not cover the years 350-264, his generally diligent methodology (albeit self-reported), combined with the slow development of military equipment and tactics in addition his proximity to the Roman political system renders his work valuable (although not above suspicion at times) for this investigation.

⁸⁷ (Champion 2011) p.99; (Davidson 2009) p.123; (Dillery 2009) p.79; (Schepens 2007) p.51; (Stylianou 1998) p.2, 123-124; (Walbank 1957) p.13, 27, 33

⁸⁸ (Rawson 1971) p. 13; (Stylianou 1998) p.124; (Walbank 1957) p.13,28

⁸⁹ (Champion 2011) p.96, 101; (Walbank 1957) p.31,32

Diodorus Siculus:

Diodorus Siculus was a first century historian whose *Bibliotheca Historica* constitutes the most complete surviving narrative account of the western Mediterranean down to the end of the fourth century, but unfortunately, his work survives only in fragments thereafter. Consequently, Diodorus remains the major source for Carthaginian and Syracusan affairs. Indeed, as previously discussed, it appears that a large amount of Diodorus narrative on Sicilian affairs was derived from either Timeaus, or Ephorus (at times possibly both), and Philistus.⁹⁰

However, Diodorus' work remains problematic for several reasons. First, it has been argued that he did not revise his work, nor did he correct the errors that he apparently was aware of.⁹¹ Second, he is very brief with his accounts of events and, although he at times makes this clear to the reader, it is likely that this tendency to truncate evidence led to his accuracy being variable (Diod. Sic. 13.104.8; 15.1.5.3).⁹² Oakley reasonably argued, that due to his brevity in comparison to Livy, Diodorus omitted many details and is often confused which leads to many mistakes especially in regards to "chronological errors and the compression of events."⁹³ Moreover, Lewis noted that due to this brevity his account of Dionysius I's struggle with Carthage is "inadequate."⁹⁴ Finally, in a similar manner to Livy, Diodorus appears to have been more concerned with conveying the moral lesson or entertainment value of events rather than strict adherence to detail.⁹⁵ This resulted in very repetitive accounts of military encounters, which like Livy renders him a dubious source for the nuanced details of military development.⁹⁶ Therefore, whilst Diodorus' work remains problematic, it is the only comprehensive surviving account of the western Mediterranean covering the fifth and fourth centuries, it thus useful as a guide to the broad outline of events and historical figures.

⁹⁰ (Lewis 1994) p.121,123; (Rhodes 2007) pp.61-62; (Stylianou 1998) p.2,9, 52-58, 62-65, 84, 129

⁹¹ (Stylianou 1998) p.2

⁹² (Lewis 1994) p.120-121; (Stylianou 1998) p.80

⁹³ Oakley p.108; (Stylianou 1998) p.80

⁹⁴ (Lewis 1994) p.153

⁹⁵ (Stylianou 1998) p.15

⁹⁶ (Stylianou 1998) p.15

Livy:

Livy's annalistic and at times anachronistic account of Rome and Italy in his books VI-X remains the only continuous surviving source pertaining to the events of the Italian peninsula for the fourth century.⁹⁷ However, Livy's work during this period is very problematic, particularly in regards to his description of military equipment, tactics and battle narratives.⁹⁸ Indeed, P.G. Walsh argued that Livy illustrates "ignorance over military matters" particularly in regard to military equipment, although this view is not held by all.⁹⁹ However there are clear examples where Walsh's statement is validated. For example, Livy described the Samnite shield as having broad shoulders tapering towards the bottom, which is at odds with those found in the archaeological record and it appears that he is describing the Samnite gladiators' shield of the first century A.D (Livy 9.40.2-3).¹⁰⁰ Additionally, Livy's description of the manipular legion is highly likely to have been an anachronistic, designed in part to illustrate Roman exceptionalism and consequently "very little of which, if any at all, can be accepted as historical" (Livy 8.8-9).¹⁰¹ His description of the Samnite linen legion as being equipped with shields and scabbards inlaid or lined with gold and silver is almost certainly fanciful (Livy 9.40.3-5).¹⁰² Accordingly, Burns argued in his comprehensive investigation into southern Italy military equipment that "only a few items were inlaid with silver and none with gold."¹⁰³ Yet, in the same passage Livy describes the Samnites as wearing a *spongia* and crested helmets, which are both frequently attested in the archaeological record and thus appear creditable (Livy 9.40.3). These attestable aspects however do not appear frequently in Livy's work regarding the fourth century and consequently when regarding the finer details of military matters he requires the utmost caution. When Livy's narrative resumes in books XXI-XXX it is likely that Polybius constituted a major source so there may be a core portion of reliable information imbedded within his narrative pertaining to general military affairs, but it is unknown how strictly he followed Polybius in this field.¹⁰⁴

⁹⁷(Forsythe 1999) p.12

⁹⁸ (Oakley 1997) p.33; (Walsh 1961) p.197, 279-281

⁹⁹ (Koon 2010) pp.24-26; (Walsh 1961) p.197;

¹⁰⁰(Salmon 1967) p.103, 105

¹⁰¹ (Forsythe 2005) p.68; (Oakley 1997) p.75,85

¹⁰²(Burns 2006) p.31; (Salmon 1967) pp.102-105

¹⁰³ (Walsh 1961) pp.110-111, 119-122, 143-153

¹⁰⁴ (Briscoe 2013)p.85-87; (Miles 1997) p.9

The value in Livy's work for this investigation is that he heavily relied on the *Annales Maximi* and the *fasti triumphales* which allowed him to produce a generally reliable outline of Roman events during the fourth century.¹⁰⁵ These sources of information included the names of major magistracies, who commanded which Legion, as well as information on the outcomes of battles, in addition to laws, treaties and triumphs, which due to the competition between Roman families were unlikely to have been perverted.¹⁰⁶ However, Livy's use of these sources is contested by Walsh.¹⁰⁷ Furthermore, it must be noted that Livy also drew upon familial histories that he himself admits were notoriously pitted with misinformation which tended to take the form of exaggerations and misappropriations of their ancestors achievements (Cic. *Brut.* 62; Livy 8.40.1-6).¹⁰⁸ In conclusion the raw data outlining the major events of the fourth century transferred to Livy by the *Annales Maximi* and *Fasti* appear generally credible. However the remainder of Livy's narrative, particularly in regard to military matters must be approached with a great sense of scepticism.¹⁰⁹

Plutarch:

Plutarch differs from the majority of the ancient writers utilized in this thesis in that he was a biographer rather than a historian (Plut. *Alex.* 1.2-3).¹¹⁰ Although, Plutarch's *Lives* were intended as moralizing and ethical works, which often resulted in them focusing on the personal details of characters at cost to the length of the historical narrative, he read widely, utilized multiple sources and applied a generally good sense of critical awareness.¹¹¹ Consequently, Plutarch's intentions should not detract from him being viewed as a conscientious biographer and generally historically reliable.¹¹² Therefore, his works on Dion, Pyrrhus, and Timoleon are of value to this investigation, particularly as comparative reference points for Diodorus' account of their lives. This is important as Plutarch appears to have employed similar sources as Diodorus, namely Ephorus, Philistus, and Timeaus for his

¹⁰⁵ (Cornell 1995) p.100; (Oakley 1997) p.38, 72, 96, 100; (Salmon 1967) p.6; (Walsh 1961) p.280

¹⁰⁶ (Astin 2008) p.10; p.14 (Cornell 1995); (Goldsworthy 2001) p.22; (Hoyos 2015) p.285; (Koon 2010) p.28; (Oakley 1997) p.24, 31, 38; (Salmon 1967) p.6, 103-105; (Walsh 1961) p.110-112, 277

¹⁰⁷ (Walsh 1961) p.110-111, 119-122

¹⁰⁸ (Astin 2008) p.8; (Goldsworthy 2001) p.22; (Oakley 1997) p.67; (Walsh 1961) p.112

¹⁰⁹ (Astin 2008) p.10; (Oakley 1997) p. 24, 33, 100;

¹¹⁰ (Mehl 2011) p.185; (Schettino 2013) p.417

¹¹¹ (der Stockt 2013) p.323, 328 (Nikolaïdis 2013) p.353; (Pelling 1995) p.143, 151; (Rhodes 2007) p.65; (Schettino 2013) p.417-418.

¹¹² (Scardigli 1995) p.2; (Schettino 2013) p.417

works on Dion and Timoleon.¹¹³ Thus, where Plutarch's and Diodorus' narratives converge, it may be reasonably assumed to be as reliably relayed evidence from Timaeus or Philistus. Plutarch also produced an account of the life of Camillus, but as previously discussed there were no contemporary Roman accounts from which he could draw upon and as such Dionysius of Halicarnassus and Livy appear to have constituted the major sources for this work.¹¹⁴ Thus, like his use of Ephorus and Timaeus for Sicilian events, it is probable that his Roman battle narratives are not wholly accurate outside of who won and the death of major figures. In conclusion, whilst his military narratives between 350-264 are questionable, particularly in regard to military equipment and tactics, Plutarch like the previously discussed historians, appears to be at times generally useful (but not totally infallible) when recording the broad strokes of the major events pertaining to the years 350-264.

2.3. *Summary:*

Whilst the literary evidence is problematic and requires a cautious approach, especially in regard to the small and nuanced details of military equipment and tactics, it can be relied upon to present a generally accurate picture regarding the broad outline of events, names, places, and eventual outcomes such as the Carthaginian defeat at the battle of Crimisus or Himera. That said, figures are often exaggerated and impossible to definitively discern especially in regard to Greek accounts of non-Greek forces which were frequently exaggerated.¹¹⁵

Moreover, the detailed battle narratives, and at times the description of military equipment should be viewed with the utmost suspicion and cannot be utilized without rigid justification. There were few ancient historians that actually fought in the battles examined throughout this thesis and it is unlikely that the battle narratives that included speeches, individual acts of valour, and battle tactics alongside other minor details such as the length of battles were accurately portrayed. Indeed, it is hard to see that the majority of battle descriptions were accurate outside of the general outline of events such as who won, whether the battle was hard fought and the deaths of notable figures. Furthermore, it

¹¹³ (Pelling 1995) p.151; (Scardigli 1995) p.13; (Schettino 2013) p.420, 422; (Wilamowitz-Moellendorf 1995) p.67

¹¹⁴ (Schettino 2013) p.422

¹¹⁵ (Parker) BNJ 70 F 201 Commentary; (Stylianou 1998) p.130

would be difficult even for those writers who were present at such battles namely Philistus, to have had absolute clarity over the entirety of events as they unfolded on the battlefield. Indeed, once the battle started the soldiers fighting in their units would likely have had a very myopic experience of events.

With regards to the political accounts of the period, the lack of indigenous Carthaginian literature renders any account of their political system and extension of hegemony difficult to precisely quantify. Indeed, as previously discussed, the most detailed description was composed by Aristotle who constructed his account from secondary evidence and appears to have drawn parallels with Greek political institutions in order to better explain or understand Carthaginian political entities. For example, his comparison of the Carthaginian council of 104 with the Spartan *gerousia* may not have been totally accurate (Arist. *Pol.*1272b). Furthermore Polybius, who provides the other major (albiet brief) account of Carthaginian politics, noted the differences with that of Rome, yet upon closer inspection they appear remarkably similar (Polyb. 6.11-18, 51-6). Thus, one must be aware of the literary biases at work within many Greek and Roman historians that sought to stress a sense of the 'Other' when describing foreign peoples which may or may not have been accurate. On the other hand there is a useful source of information pertaining to Roman and Syracusan politics, although it too is not without its own biases and flaws.

Furthermore, although at times the literary evidence appears to be corroborated by archaeological discoveries, this too has the potential to be misleading. For example, the Roman military equipment described by Polybius writing in the second century appears remarkably similar to the previously discussed equipment found in in the fourth century (Polyb. 6.22-23). This then suggests a relatively slow evolution and as such may be an accurate description of Italic weaponry. However, this too cannot be wholeheartedly applied to all descriptions of weaponry. Diodorus and Polybius described the swords of the Celts at Telamon as long slashing swords, which evidence suggest only entered the archaeological record around c.225 and were unlikely to have been widely utilized, if at all, at this time (Diod. Sic. 5.30.3; Polyb. 2.29-33).¹¹⁶ Moreover, the literary tradition records that the Romans adopted the oblong shield and *pilum* sometime during the second Samnite war, yet archaeological evidence suggests that they had been present in Etruria and Latium

¹¹⁶(Connolly 1981) pp.115-116 fig.1-12; (Hubert 2006). pp.89-90,128

from the eighth and sixth century respectively (Diod. Sic. 23.2; Livy 8.8).¹¹⁷ Indeed, ancient historian's descriptions of military equipment can often be anachronistic or fancifully inaccurate. For example, Livy's description of the Samnite linen legion and the Samnite shield (Livy 9.40.2-5). Consequently, inaccuracies such these require the literary evidence to be approached diligently.

2.4. *Archaeological Evidence:*

Physical examples of military equipment are extremely beneficial as they constitute "direct and uncontaminated" evidence, however despite this value, it too must be approached with caution as it is representative of long term trends and is potentially "too clumsy" to reveal the nuances of development.¹¹⁸ It is important to recognise that a healthy percentage of the physical and iconographic evidence utilized in this thesis, dates both one century either side of the fourth and third centuries. However, remarkably similar evidence from across the western Mediterranean indicates a slow rate of development regarding military technology. For example, a shanked javelin found in Latium from the eighth century is remarkably similar to the fourth century examples from Montefortino as well as the third century examples discovered at Castelruf and Numantia.¹¹⁹ This slow rate of development can also be seen in the oblong shield which appears to have remained largely unchanged from the eighth century until sometime during the first century where it becomes curved.¹²⁰ Consequently, military equipment discovered in both fifth and second century contexts were likely to have been similar to that in use during the fourth and third centuries.

Military equipment found in funerary contexts must also be approached with caution, because it is largely representative of the equipment used by the upper levels of society and thus may not necessarily represent the arms and armour employed by the lower levels of society who could rarely afford to be buried with their weaponry.¹²¹ For example, the complete panoplies discovered at Lanuvium and Vulci and Tomb 43 at Narce in Etruria were

¹¹⁷ *Ineditum Vaticanum* see: (von Arnim 1892) pp.119-122; For oblong shields in early Etruscan & Latin contexts see: (Connolly 1981) p.63; (Stary 1979) p. 183 fig 3 187; For shanked javelins in early Etruscan & Latin contexts see: p. 92. Fig 14, 98 fig.9, 100 fig.8

¹¹⁸ (Goldsworthy 2001) p.19; (Holloway 1991) p.11

¹¹⁹ (Bishop 2006) p.51 fig5, 52

¹²⁰ (Bishop 2006) p65,.91; (Stary 1979) p.184 fig.3; (Tomczak 2012) p.56 fig.9, 57 fig.10

¹²¹ (Burns 2006) p.50

likely to have been very expensive.¹²² Thus, there is ample evidence to suggest that while some wealthy soldiers, could and did go into battle similarly armed to classical Greek hoplites, it may not have been worn by all wealthy soldiers and some apparently opted to fight with other forms of cuirasses.¹²³ Moreover, examples of equipment such as the bronze cuirass discovered in tomb 43 at Nacre has been argued by Spivey and Stottard as never being intended for battlefield use rather it was constructed for “conspicuous display.”¹²⁴ Consequently, some military equipment derived from funerary contexts appears to have been decorative or ceremonial and therefore has the potential to distort the interpretation of what exactly was functional military equipment.

The financial investment in military equipment also likely resulted in a large percentage of equipment being re-used inter generationally and as such was potentially not deposited in a funerary context. Consequently, although there is a useful corpus of military equipment deposited in funerary contexts, particularly in the Italian peninsula, this evidence may not necessarily reflect the arms and armour utilized by the large majority of troops. However, this should not prevent the use of the cuirasses, helmets, javelins, shields, spearheads, and swords attested in the archaeological record contributing to the study of military equipment as some of it may represent actual battlefield equipment.

Artistic representations of military equipment also constitute an important basis of archaeological evidence and can be distilled largely into two groups which are not without their own interpretational difficulties. This evidence is largely from a number of Italic tomb paintings and provides evidence of a wide range of military equipment in use over a range of Italic communities such as; The François tomb (Vulci), the Amazon Sarcophagus, the Tomba del Orco II, Giglioli tomb (Tarquinia), Falerii Veteres (Falerii), and Paestum (Lucania).¹²⁵ These tombs provide a wealth of pictorial evidence on Italic infantry and cavalry equipped with various combinations of cuirasses, helmets, javelins, spears, and swords.

¹²² (Connolly 1981) pp.96-112

¹²³ (Connolly 1981) p.97 fig.1-2, 98 fig.14, 99-100 fig.4, 101 fig.9-14, 108 fig.1-10, 109, 108 fig.1,8, 111; (Burns 2006) p.56-108, 292-321; (Salimbeti 2014) p.28,32-35, 58; (Schneider-Herrmann 1996) Pl.3, 5, 10, 21-23, 67, 69, 70a-b, 72-75, 81a-b

¹²⁴ (Spivey 1990) p.129

¹²⁵ (Briguet 1986) p.162 fig. 96 (Connolly 1981)p.97,105; (Burns 2006) p.335, fig3-5, 345 fig1-3, 399 fig.5, 371-377; (Gelba 2012) p.50 fig.52-.4, 51 fig 5.5-6, 52 fig 5.7, 55' (Pedley 1990) p.102-105

Moreover, tomb and vase paintings together with cinerary urns and reliefs importantly illustrate images of military equipment that have not survived due to the perishable material used in their construction, such as the *linothorax* and the *amentum*, a leather throwing thong.¹²⁶ Although these paintings appear only in wealthy tombs that again pre-date the third century, the depiction of equipment and the techniques in which they were used are unlikely to have differed during the period covered by this thesis.

Further evidence of military equipment can also be found depicted on a variety of artistic wares and monuments, particularly in the Italian peninsula and North Africa. For example, a number of vases depicting military equipment have been found in Italy and Gisela Schneider-Herrmann's work pertaining to the Samnites is of immense value in this regard.¹²⁷ Whilst the majority of what little evidence pertaining to Carthaginian military equipment appears on stone reliefs such as those found at Chemtou and Kbour-Clib.¹²⁸

Chapter Three: Carthage

3.1. Overview

By 350, Carthage had been the greatest economic and hegemonic power in the western Mediterranean for the previous two centuries. Its sphere of influence stretched across the North African coast from the Altars of the Philaeni to the Straits of Gibraltar and into the Atlantic seaboard of Morocco (Sal. *Iug.* 19).¹²⁹ In North Africa its hegemony appears to have been maintained through a combination of allied communities, colonies, and trading posts that appeared to have varying legal rights in addition to differing military and financial obligations to Carthage herself.

In southern Spain, Carthage inherited the former Phoenician trading posts and colonies (Aldbera, Gades, Malaca) and subsequently conquered the indigenous kingdom of Tartessus, which brought control over the lucrative tin route that passed through the Straits

¹²⁶ (Aldrete 2013) p.28, 167; (Briguet 1986) p.93, 118-119 fig.32-34, 120-121 fig. 36-37, 162 fig.96; (Burns 2006) pp.103-108, 178-179, 331, 351; (Connolly 1981) p.99,100 fig.5,7, 105; (Gardiner 1907) p.253, 255 fig.3, 261 fig.7;(Gelba 2012) p.46,48-49, 50 fig.5.2-4, 51 fig.5.6, 52 fig. 5.7, 53 fig.58, 59; (Salimbeti 2014) p.22, 28, 35, 58; (Schneider-Herrmann 1996) Pl.5, 15, 52, 199

¹²⁷ (Schneider-Herrmann 1996)

¹²⁸ (Connolly 1981) p.147; (Salimbeti 2014) p.21, 22,28,36, 58

¹²⁹ (Bridoux 2014) pp.180-183; (Lazenby 1996) p.24; (Papi 2014) p.202; (Quinn 2014) pp.169-179;

of Gibraltar all the way up to Brittany and Cornwall, as well as the vast agricultural and mineral wealth of the Baetis valley.¹³⁰ A mixture of allied communities, colonies, military garrisons, and trading posts further extended Carthaginian influence over a network of islands, namely the Balearic Islands (Ibiza), Corsica (Aleria), Malta (Tas Silġ), Sardinia (Caralis, Nora, Olbia, Tharros), and western Sicily (Drepana, Lilybaeum, Panormus, Motya) to the river Halycus.¹³¹ These islands provided crucial staging points for Carthaginian maritime trade, in addition to an abundance of agricultural, mineral, and manpower resources. Thus, it appears that Carthaginian hegemony played a major factor in the inter-connectivity of the southern regions of the western Mediterranean, which as this thesis will demonstrate helped to facilitate the development of a shared military *koine*.

However, the extent of Carthaginian hegemony has been increasingly questioned and the traditional model of Carthaginian imperialism has begun to be reassessed in favour of a more nuanced form of influence that in many places, despite the appearance of Carthaginian styled buildings, inscriptions, and material goods, may have merely meant a common commercial and material *koine*.¹³²

Although, as this thesis will illustrate, Carthaginian, Roman, and to a lesser extent Syracusan hegemony operated in largely similar ways, there were nuanced differences that reflected the mercantile and martial ambitions of Carthage and Rome in particular. For example, Carthage appears to have been largely focused on the extraction of financial revenues and trading rights from the communities within its sphere of influence, whilst Rome preferred to extract the military manpower of its allies. That is not to say that Carthage did not utilize the manpower of its allies, for indeed it did, but apart from the Libyphoenicians, and Numidians, who appear to have been obligated to provide troops through the varying terms of their relationships, Carthage preferred to access the manpower of its allies by recruiting mercenaries from within their territory. This appears remarkably similar to the agreement between Syracuse and Sparta which granted the Dionysius I and his son Dionysius II the right (possibly exclusively with regards to the western Mediterranean) to recruit mercenaries from the Peloponnese (Diod. Sic. 14.44.3, 58.1, 62.1; 16.17.3).

¹³⁰ (Hoyos 2015) p.15; (Horden 2000) p. 134, 349; (Scullard 1989) p.17,19-20; (Scullard 1990)

¹³¹ (Hoyos 2015) p.16; (Scullard 1989) p.19-20

¹³² (Bridoux 2014) pp.180-202; (Papi 2014) pp.202-219; (Roppa 2014) pp.257-282; (Wallace-Hadrill 2014) pp.302-304; (Whittaker 1978) p.60

Literary evidence suggests that, following the rise of Dionysius the elder in Syracuse (405-367), warfare between Carthage and Syracuse became endemic throughout much of the fourth century (Diod. Sic. 13.43-63, 79.8-90; 14.41-78, 95-96; 16.67-84; 19.102-110; 20.3-18; Plut. *Tim.* 17-34). It is in Sicily that Carthage appears to have focused the majority of its military efforts, and as such the Sicilian theatre of war became a major factor in the development of a western Mediterranean military *koine*. During these conflicts both Carthage and Syracuse readily employed Iberian, Celtiberian, Italic, and Greek mercenaries, in addition to Balearic Islanders, Carthaginian citizens, Libyans, Libyphoenicians, Numidians, and Sardinians. Consequently, the frequency with which Carthage brought together allied and mercenary soldiers from across the western Mediterranean played a pivotal role in the development of the western Mediterranean military *koine*.

3.2. *The Carthaginian State: Extension of Hegemony and Political Structure:*

In order to illustrate the similarities between the Carthaginian, Roman, and Syracusan military systems it is necessary to first understand how close their supposedly different political systems and extension of hegemony appear to have been. The following section will outline the Carthaginian political system and the way in which Carthage extended its hegemony. Its intention is to illustrate how this did not radically differ from Rome and to a lesser extent Syracuse. Furthermore, it will discuss how these political systems affected the recruitment of soldiers together with the equipment and tactics with which they fought.

The surviving sources for the political structure of the Carthaginian state are few, and there is no Carthaginian literature to provide direct uncontaminated evidence on their political system. Instead, scholars are forced to rely on the Greek and Roman writers for detailed, but problematic evidence, on how the Carthaginian governmental system functioned. Aristotle provided the fullest description of Carthaginian politics, but the praise he extended to their mixed constitution was derived from second hand information, which is of unknown accuracy (Arist. *Pol.* 1272b-1273b).¹³³ For example, Aristotle compared many Carthaginian institutions to Greek 'equivalents' and gave them Greek names.¹³⁴ The Carthaginian council

¹³³ (Picard 1994) p.374

¹³⁴ (Picard 1994) p.374

of 104 is compared to the *ephors* of Sparta, and Polybius commented that the council of 30 was populated by elders, which carries implications of being similar to the Spartan *gerousia*, which was in fact a small council of elders (Arist. *Pol.* 1272b; Polyb. 10.18.1).

As previously noted the Carthaginian governmental system was portrayed as being a mixed constitution, which Aristotle praised for being the perfect combination of monarchic, aristocratic, and democratic institutions (Arist. *Pol.* 1272b-1273b; Polyb. 6.51-6). The monarchic element came from the strong executive power of the *suffetes*, followed by the Senate which acted as the deliberative council and represented the aristocratic element, and finally a popular assembly that held elective and a few legislative rights which can be attributed to democracy.¹³⁵ Although in reality Carthage was controlled by an oligarchic senate (Arist. *Pol.* 1273b).¹³⁶ In this light the political systems of Carthage and Rome appear markedly similar. The Carthaginian senate, like its Roman counterpart, (which will be discussed in detail later) held power over foreign relations and can be seen as the decisive element in the declaration of war in 218 (Livy 21.18-19; Poly 3.33.1-9).¹³⁷ Under the *suffetes* sat a council of one hundred and four judges, a smaller privy-like council of thirty and somewhat mysterious councils of five, known as the *pentarchies*, existed along with a senate of around 300 members who served for life, but the specific details of how they obtained entrance into the senate are uncertain.¹³⁸

The *suffetes* acted as the heads of state, and were elected annually, and, like the consuls in Rome, they shared power in an attempt to diffuse any attempt by ambitious men to gain total control of the state (Livy 30.7.5).¹³⁹ However, the *suffetes* differed from Roman consuls in that the office was completely divorced from having any military power.¹⁴⁰ The Carthaginians appointed their generals (*Rab Mahanet*/“army head”) independently from the civil administration of the state.¹⁴¹ Unlike the Roman consuls who commanded with civic and military *imperium* for a term of one year, Carthaginian generals served for the duration

¹³⁵ (Warmington 1969) p.139

¹³⁶ (Lancel 1995) p.116; (Lazenby 1996) p.20

¹³⁷ (Lazenby 1996) p.21;

¹³⁸ (Lazenby 1996) p.21; (Scullard 1955) p.104; (Scullard 1990) p.491; (Warmington 1969) pp.140-141

¹³⁹ (Ameling 2011) p.47

¹⁴⁰ (Ameling 2011) p.48; (Lazenby 1996) p.20; (Warmington 1969) p.140

¹⁴¹ (Hoyos 2015) p.17; (Picard 1994) p.374

of the campaign.¹⁴² This was advantageous for Carthage in two ways; first by allowing their generals to maintain constant command in the field it provided them with valuable continued experience in leading troops, and second it allowed successful generals to be kept distanced from the political structures of the state whilst in command.¹⁴³

Carthage, like Rome and Syracuse was also equipped with the popular assembly (citizen assembly). Membership of the popular assembly was probably, like in Rome, restricted to male citizens that had reached a specific age, and as was the case with most Carthaginian institutions, also included a certain financial qualification. However, as Hoyos stated, “nothing is really known about the qualifications.”¹⁴⁴ One of the major functions of the popular assembly that is known is that like the Roman *comitia centuriata* the body had the power to elect generals, or at least ratify their election.¹⁴⁵ This appears to have been the case when Hannibal obtained command of the army in Spain in 221 (Polyb. 3.13.7-12; Diod. Sic. 25.8; Livy 21.3.4-5).

3.3 Carthaginian Hegemony:

By the end of fourth century Carthage, Rome, and Syracuse appear to have been the dominant hegemonic powers in the western Mediterranean. As previously stated, the extent of control that Carthage, in particular, was able to enforce through her hegemony has increasingly been questioned, but what is apparent is that in its most basic form it appears to have been merely a common commercial and cultural *koine*, whilst in other regions they were able to extract troops and tribute (in various forms) from the communities within their particular sphere of influence (Polyb. 3.33.8, 12-13; Sil. *Pun.* 3.259).¹⁴⁶ Therefore, it is important to examine the nuances of Carthaginian hegemony in order to illustrate how this system enabled it to become the dominant power in the western Mediterranean by the fourth century, and ultimately how this affected her ability to field soldiers from across the region.

¹⁴²For Carthaginian commanders see: (Goldsworthy 2001) p.30,35; (Hoyos 2015) p.17; (Lazenby 1996) p.20; (Scullard 1990) p.490; (Warmington 1969) p.142

For Roman commanders see: (Drogula 2015) p.14,56; (Eckstein 2006) p.181; (Keppie 1998) p. 19; (Rawlings 2007b) p.51

¹⁴³ (Lazenby 1996) p.20

¹⁴⁴ (Hoyos 2015) p.491

¹⁴⁵ (Warmington 1969) p.119

¹⁴⁶ (Bridoux 2014) pp.181-182, 200; (Papi 2014) pp.202-218; (Wallace-Hadrill 2014) pp.302-304

Carthage, like Rome, appears to have maintained her hegemony primarily through limited state interference in local autonomy, economic unity, military levies, taxation (in various forms), and adherence to a common set of laws. However, at her core, Carthage, unlike Rome, did not seek to be an inclusive power as she was seemingly reluctant to extend citizenship to the communities under her hegemony, and as her sphere of influence spread over the western Mediterranean, it correspondingly did not increase her citizen body.¹⁴⁷ The Carthaginian refusal to act as an inclusive state would prove costly during the wars with Rome as she was unable to raise the large numbers of troops that Rome was able to.

Carthaginian citizens were exempt from paying taxes and from military service outside of Africa; however, citizens could be levied into service if there was a threat.¹⁴⁸ Conversely, neighbouring Libyan and Libyphoenician communities appear to have been subjected to similar conditions as Rome's Italic allies. They were likely self-governing communities that retained their own civic autonomy, and appeared to have had varying degrees of legal rights according to their specific relationship with the city itself, and their own individual make up whether it was a city, village, or tribe.¹⁴⁹ These communities also appear to have had certain obligations, such as military service or payment, either in direct taxes or in produce, which reportedly could amount to between a third and half of their agricultural produce being sent to Carthage.¹⁵⁰ Furthermore, like Rome's Italic allies they constituted the majority of Carthage's non-mercenary military manpower, and they were denied full citizen rights but appear to have been afforded the same legal rights as citizens (Polyb. 7.9.5).¹⁵¹

The Libyphoenicians were a mixture of native Libyans and Carthaginian colonists and seem to have modelled their governing bodies and officials on those at Carthage.¹⁵² Diodorus records that the Libyphoenicians were also granted intermarriage rights with Carthaginian citizens (Diod. Sic. 20.55.4). This appears likely as the Numidian elites also had intermarriage rights with the Carthaginian aristocracy. For example, Sophonisba the daughter of Hasdrubal was married to the Numidian prince Syphax, whilst the young cavalryman Naravas is also

¹⁴⁷ (Goldsworthy 2001) p.29; (Lazenby 1996) p.25

¹⁴⁸ (Hoyos 2010) p.144; (Lazenby 1996) p.25; (Scullard 1990) p.504

¹⁴⁹ (Ameling 2011) p.47,48; (Lazenby 1996) p.24

¹⁵⁰ (Ameling 2011) p.48; (Lazenby 1996) p.24

¹⁵¹ (Ameling 2011) p.48; (Hoyos 2010); (Hoyos 2015), p.15

¹⁵² (Lazenby 1996) p.24; (Jiménez 2014) pp.221-224

recorded as having some Carthaginian ancestry (Polyb. 1.78.1-4, 13.14-15, 29.23, 30.12.7; Livy 29.29.12).¹⁵³

Carthage's hegemony over its communities in western Sicily was exercised through a system known as *epikrateia*, a Greek term for a self-governing territory.¹⁵⁴ The *epikrateia* was a loose organizational instrument of Carthaginian control; it was not a permanently defined or unified territory, nor was it unified in its administration or ethnic composition.¹⁵⁵ The communities of the *epikrateia*, like Rome's Italic allies, maintained their own civil administration and there was no Carthaginian official in the role of provincial governor.¹⁵⁶ The individual cities and tribes that constituted the *epikrateia* paid tribute to Carthage and served as garrisons for Carthaginian troops in order to provide security from the encroachment of ambitious Sicilian communities. The use of the *epikrateia* as a defensive barrier against the Greeks hints at Carthaginian policy in Sicily as a whole; that is to say after the defeat at Himera (480) Carthaginian actions appeared not to have been directed towards aggressive expansionism, but rather they sought to maintain the status quo. The lack of evidence pertaining to other regions under Carthaginian hegemony excludes any direct comparisons being drawn between the *epikrateia* system utilized in Sicily, but the previously discussed evidence pertaining to North Africa appears to indicate that a similar system, if not exactly the same, was employed.

Carthaginian presence in Sardinia appears to have been mainly confined to colonies with military garrisons dotted around the coastal regions that served to export the agricultural wealth of the island; additionally the island likely acted as a fruitful recruiting ground for mercenaries. This may have been a similar template for other islands with a Carthaginian presence, such as Corsica and the Balearic Island.¹⁵⁷ Thus, as was the case in Sicily, Carthage seemed content to maintain her trading enterprises without seeking to forcibly conquer the parts of the island that were opposed to her.

The political relations between Carthage and her Iberian territories are difficult to define precisely due to the lack of native sources on the subject. Furthermore, Greek historians'

¹⁵³ (Bridoux 2014) p.181; (Hoyos 2015) p.15

¹⁵⁴ (Ameling 2011) p.49; (Hoyos 2010) p.49

¹⁵⁵ (Ameling 2011) p.50

¹⁵⁶ (Ameling 2011) p.51

¹⁵⁷ (Ameling 2011) p.49; (Dyson 2007) p.114, 116, 121; (Hoyos 2010) p.47; (Hoyos 2015) p.16; (Lazenby 1996) p.24

knowledge of Carthaginian Spain was limited and their level of recorded information suffers in a corresponding manner.¹⁵⁸ The Iberians were likely afforded the civic freedoms as were other far western North African communities such as Lixus and Siga. Indeed the extent of Carthaginian influence in these regions may have merely been a shared cultural and material *koine*, or the right to recruit mercenaries.¹⁵⁹ However, Carthaginian colonies, like Gades, may have been extended certain special rights and privileges.¹⁶⁰ Scullard suggested that, until the military conquest of Spain by the Barcid family in the second half of the third century, Carthaginian Spain “should not be regarded as part of the Carthaginian Empire... but rather as a sphere of influence or a protectorate.”¹⁶¹ There certainly seems to be very little evidence of any attempt by Carthage to create a similar system to the *epikrateia* in Spain as they did in Sicily, and even less evidence of military activity with expansionist aims in the centuries leading up to the Barcid conquests.¹⁶²

Conversely, the treaty between Carthage and Rome dated to 348 may indicate that by this time the Carthaginians had begun to exert some form of formal rule in southern Spain (Polyb. 3.24).¹⁶³ However, the exclusion of Romans from colonizing or trading in Spain as far south as Mastia, may in fact reflect a Carthaginian attempt to maintain her grip on Iberian manpower, whose mercenaries had, during the fourth and fifth centuries, become an important element in their military activities in Sicily. Taxes were likely levied from their trade colonies, but it is unknown whether tribute was paid from the Iberian settlements surrounding Carthaginian territory. The immense wealth extracted from Spain, along with the importance of her mercenary manpower seems to have led Carthage to exert her influence over the Iberians with a relatively light hand, lest either of these important resources became threatened. Indeed throughout the literary sources there is only one small passage by Justin stating that Carthage intervened militarily against the Iberians, soon after the foundation of Gades in the sixth century, but there is no evidence to corroborate this other than Justin’s solitary record (Just. *Epit.* 44.5.2-3).¹⁶⁴

¹⁵⁸ (Scullard 1989) p.21

¹⁵⁹ (Bridoux 2014) pp.181-182, 200; (Papi 2014) pp.202-218; (Wallace-Hadrill 2014) pp.302-304

¹⁶⁰ (Scullard 1989) p.20

¹⁶¹ (Hoyos 2010) p.50; (Scullard 1989) p.20

¹⁶² (Hoyos 2010) p.50; (Scullard 1989) p.21

¹⁶³ (Ameling 2011) p.50

¹⁶⁴ (Hoyos 2010) p.50

In conclusion, and as this thesis will later illustrate in its discussion of Rome, the two political systems shared remarkable characteristics (albeit it with slight differences). Furthermore, it appears that Carthaginian and Roman hegemony also operated in comparable ways. As the subsequent chapters will begin to demonstrate, these similarities in governance helped to facilitate the development of the western Mediterranean military *koine*.

3.4. Carthaginian Armies:

The following section will examine the archaeological and literary evidence relating to the military equipment and likely tactics of the most commonly recorded soldiers that were within Carthaginian armies. It will also illustrate how these ethnically diverse soldiers were involved in the development of the western Mediterranean military *koine*. Indeed, as the subsequent discussion of Carthaginian armies will illustrate they played a pivotal role in the development of this shared military *koine*. Between 350-264 Carthage frequently employed Celtic, Celtiberian, Iberian, Italic, Greek mercenaries, in addition to Libyans, Libyphoenicians, Numidians, and their own citizen troops.¹⁶⁵

Literary sources generally portray the Carthaginians as being more concerned with mercantile activities than serving military service, which led to their dependence on mercenaries, and allied auxiliaries (Diod. Sic. 5.38; Plut. *Timo*. 28.11; Polyb. 6.52.5). Polybius noted that the Carthaginians neglected their infantry, and scarcely cared more about their cavalry (Polyb. 6.52.3). This sentiment is echoed by Diodorus who recorded that the Carthaginians did not place much faith in the martial abilities of their own citizens and, after the defeat at the river Crimisus in 341, pursued a deliberate policy of utilizing mercenary manpower, particularly Greek (Diod. Sic. 5.38; 16.81.4). Furthermore Plutarch, commenting on the defeat at Crimisus, adds that the Carthaginians preferred to use Iberians, Libyans, and Numidian's in order to "sustain their defeats at the cost of other nations" (Plut. *Tim*.

¹⁶⁵ App. *Hisp*.28; *Hann*. 52; Diod. Sic. 13.44.2, 110.5, 14.8.5, 15.70, 16.73, 19.12, 20.11.1, 22.12, 25.2; Livy 21.21, 38-39, 48, 52, 59, 22.46-47, 24.15, 25.9, 27.38, 48, 28.46, 30.33; Frontin. *Strat*. 16.3; Livy 10.26; 21.22-23, 38,57,59; 27.38-39, 48, 28.36, 30.33; Poly 1.17.4, 19.2, 43.4, 48.2, 66.7, 2.67.7, 3.33, 113-115; Plut *Dion* 27; *Pyrrh*. 16.10, 26.1, 30.1, 32.1-2; Xeno *Hell*. 7.12, 30. (Ameling 2011) pp.48-49; (Connolly 1981) pp.148-151; (Goldsworthy 2001) pp.30-34; (Hoyos 2010) p.157; (Lazenby 1996) p.46; (Picard 1968) p.168; (Salimbeti 2014) pp.21-22; (Scardigli 2011) p.33; (Scullard 1989) p.20; (Scullard 1990) p.495, 504; (Warmington 1969) p.121,126

28.6).¹⁶⁶ Recently scholars have expanded upon this evidence suggesting that on the whole Carthaginians did not find military service attractive for two major reasons; first it prevented their exclusive citizen body from being depleted by warfare, and second, as the Carthaginian citizens were merchants it also prevented the state from economic depletion should they either lessen their profits through physically being away on campaign, or through their deaths.¹⁶⁷

The Carthaginian reliance on mercenaries and subject troops to fight their wars is by no means unique in the Classical World. In the eastern Mediterranean the use of Greek mercenaries has been attested from the eighth century onward, and had become prolific during the fourth and fifth centuries.¹⁶⁸ Additionally, Greek and Macedonian mercenaries provided the backbone of the Hellenistic successor kingdoms. This is particularly evident in Ptolemaic Egypt who employed large numbers of Graeco-Macedonians, whilst Celtic and Italic mercenaries were frequently employed by Syracusan tyrants.¹⁶⁹ The use of large numbers of troops in the capacity of allies, auxiliaries, or as soldiers raised by a specific individual, family, or political faction with allegiance to either a specific Carthaginian or the state is also not unique to the Carthaginians. Indeed, Rome offers many parallels to this. For example, the Fabii, a prominent Roman *gens* fought and lost a private war with the Etruscan city of Veii and after the defeat of the Latins in 338, Roman armies at times consisted of up to fifty percent allied troops (App. *Hann.* 8.31; Dion. Hal. *Ant. Rom.* 9.22; Polyb. 3.107.12; 6.26.7, 30.2; Livy 2.49.4. 9.30.3).¹⁷⁰ Consequently, the Carthaginian dependence on auxiliary, client, and mercenary troops to constitute the bulk of their armies was not a unique phenomenon.

The suggested reluctance of Carthaginians to participate in military service should not be seen as a unique phenomenon either. Carthaginian citizens could, and did, serve as officers in the army and citizens contributed if there was a situation dire enough to necessitate it.¹⁷¹

¹⁶⁶ ἀλλοτριῆς βλάβαις ἀνεδέχοντο τὰς ἥττας

¹⁶⁷ (Goldsworthy 2001) p.30; (Scullard 1990) p.496;

¹⁶⁸ (Quesada Sanz 1999) bp.17; (Trundle 2004) pp.6-7, 41

¹⁶⁹ (Bagnall 1976) p.117 (Bar-Kochva 1976) p.53,201,202; (Dyson 2007) p.114; (Frederiksen 1984) p.143;(Stefanou 2013) pp.111-113 tbl.7.1, 118-119; (Trundle 2004), pp.4-7

¹⁷⁰ (Cornell 1990c) p.386; (Eckstein 2006) p.230, 254; (Gabba 1989) p.222; (Keppie 1998) p.22; (Rawlings 2007b); (Sage 2013) p.52; p. 218; (Serrati 2011) p.9,24

¹⁷¹ (Goldsworthy 2001) p.30

For example, citizen soldiers are recorded fighting against Carthage's two greatest threats in the second half of the fourth century; a contingent of 10,000 was recorded fighting against Timoleon and his Syracusan force in 341 (Plut. *Timo.* 28.10).¹⁷² Carthaginian citizens also fought during Agathocles invasion of North Africa between 310-307 (Diod. Sic. 10.10). Aside from these two events there is no mention of citizen soldiers serving across Carthaginian territory in a permanent or garrison role, but this does not necessarily discount the possibility that there were some Carthaginians who did fulfil this role.

The large area of Carthaginian influence meant that if citizens did serve in the armies they were likely to serve overseas. Roman soldiers during the fourth century on the other-hand served in campaigns solely in Italy, and thus were never far away from their homes. It is also interesting to note that in the second century the Roman army suffered recruitment problems as soldiers served overseas for long periods of time without the prospect of obtaining land in Italy.¹⁷³ This phenomenon may hint at the issues that dissuaded large numbers of Carthaginian citizens from fighting in their armies after 341. The loose *epikrateia* system the Carthaginians utilized in Sicily resulted in the Carthaginian citizens fighting over a region in which they had little prospect of gaining further land, which is a direct contrast to the benefits that Roman citizens and its allies were afforded through the establishment of colonies.¹⁷⁴ Therefore, the withdrawal of Carthaginian citizens after the heavy defeat at Crimissus may also represent a refusal to fight outside North Africa because of the lack of direct benefits that they could attain. Furthermore, the wealth of Carthaginian citizens may have also led many to find military service unattractive.

As the majority of Carthaginian armies appear to have been constructed of a mixture of troop types, the varying methods of recruitment need to be examined. Allied troops were likely either levied as a form of tribute or as a requirement of their specific treaty obligations.¹⁷⁵ Mercenary forces were also likely to have been recruited with different methods. They could be recruited either as whole contingents, or individuals serving under a specific chieftain or captain who was paid by ambitious individuals, family units, political

¹⁷² (Hoyos 2010) p.154; (Picard 1968) p.168; (Warmington 1969) p.115, 120, 122,125

¹⁷³ (Nicolet 1994) p.619; (Keppie 1998)p.58; (Lintott 1994) pp. 36-37

¹⁷⁴ (Cornell 1995) p.352, 367; (Rich 2011) p.19

¹⁷⁵ (Goldsworthy 2001) p.33

factions, or the state itself. Within these recruitment parameters there also seem to have been differences; first, mercenaries could be sent to fight as part of an alliance between communities, powerful individuals, families, or states. This illustrates that mercenaries, like subject troops could be recruited through diplomatic alliances, and friendships.¹⁷⁶ Whilst there are no direct examples of this occurring in the scant Carthaginian sources, there are parallels of this occurring in Syracuse. For example, Sparta frequently permitted the Syracusan tyrants Dionysius I and II to recruit mercenaries from the Peloponnese, whilst Timoleon arrived in Syracuse with 700 hundred Greek mercenaries after an appeal for help to Corinth was issued (Diod. Sic. 14.44.1-2, 58.1, 16.66.; Xen. *Anab.* 1.4.3).¹⁷⁷ Alternatively mercenaries could be recruited privately for personal gain in the form of glory, plunder, and pay as was the case with Xenophon, or in the case of the Ptolemaic Egypt, the opportunity to own land as mercenary settlers (*cleruchs*).¹⁷⁸

Numismatic evidence suggests that Carthage permitted some Sicilian communities to mint local coinage for the purpose of paying soldiers.¹⁷⁹ A mercenary's loyalty generally was to their paymasters, indicating that these Sicilian communities were responsible for hiring mercenaries, and they may have financed the more permanent garrisons in western Sicily.¹⁸⁰ Therefore, Carthaginian recruitment of mercenaries as individuals, or in larger contingents, appears similar to that practiced in other regions of the Mediterranean.

The various recruitment methods employed by the Carthaginian army, in conjunction with the wide geographical territory from which they drew their soldiers, resulted in a diverse body of troop types fighting for a variety of reasons. These reasons were likely to be similar to those that compelled service in Roman and Syracusan armies and could include; personal desire for plunder and land, personal, collective allegiance or debt to an individual, family unit, political faction, or the Carthaginian state itself, and the defence of one's own land. This heterogeneous army, despite their cultural and geographical differences, still fought primarily with the same weapons (javelins, thrusting spears, and swords), and it appears

¹⁷⁶ (Trundle 2004) p.43

¹⁷⁷ (Trundle 2004) p.43, 106-107; (Hoyos 2010) p.171; (Warmington 1969) p.113;

¹⁷⁸ (Quesada Sanz 1999) p.9; (Trundle 2004) p.42.

¹⁷⁹ (Frey-Kupper 2014) p.81

¹⁸⁰ (Ameling 2011) p.50

that they utilized these weapons in a largely similar manner. For example, Libyan, Numidian, and Spanish troops generally fought as javelin armed skirmishers, whilst heavier troops could also be fielded in a less mobile formation that sought to close and engage with their spears or swords at close quarters. These common elements allowed the heterogeneous Carthaginian army to integrate a variety of troops into a cohesive fighting force that, as will be discussed in the following sections, did not operate with vastly different equipment and tactics from contemporary Roman and Syracusan armies.

There is little direct evidence for the command structure of the Carthaginian army. It seems likely that generals (*Rab Mahanet*) were elected suggesting that they were either aristocratic, or at the very least wealthy enough to have been well renowned.¹⁸¹ However, literary evidence indicates that the overall command of Carthaginian armies, like Roman armies could be held by both an individual generals or in pairs (Diod. Sic. 16.81.3, 16.67.2, 19.106.8 20.12, 20.10.5-6; Plut. *Timo*. 17.3, 25.3; Polyb. 1.56.1).

Literary evidence also suggests that military command could be monopolized by particular families, such as the Magonids (409-396) in Sicily, and the Barcids (241-202) in Spain and Italy.¹⁸² A likely factor in the ability of these families to retain command of the military is the Carthaginian policy of appointing generals to command for the duration of a campaign, or at least without a definite time limit.¹⁸³ This consequently allowed generals such as Hamilcar and Hannibal Barca the ability to gain invaluable experience in the art of command.¹⁸⁴ Consequently, these generals were likely to have taken other members of their clients, family, and political faction on campaign with them which then resulted in the transfer of command skills to them, whilst excluding other families and factions with their clients from gaining these skills. Hamilcar Barca campaigned in Iberia with his son-in law Hasdrubal and son Hannibal, who then assumed command after his death.

Like Rome and Syracuse, familial ties and client relationships were likely to have been major influences on the ability of specific families to be able to monopolize the command of the Carthaginian armies. Additionally, these familial ties and client relationships were likely to

¹⁸¹ (Goldsworthy 2001) p.35; (Hoyos 2010) p.32,33; (Lazenby 1996) p.20

¹⁸² (Hoyos 2010) p.33, 132; (Picard 1968) p.143; (Scullard 1990) p.490; (Warmington 1969) p.143

¹⁸³ (Goldsworthy 2001) p.35; (Hoyos 2010) p.34; (Warmington 1969) p.142

¹⁸⁴ (Goldsworthy 2001) p.35; (Lazenby 1996) p.20, 29; (Warmington 1969) p.143

have played a major part in the ability to recruit soldiers. Furthermore, like Rome and Syracuse, the more talented commanders may have then been incorporated into the great families by marriage or adoption. This may account for Hasdrubal's ability to marry into the Barcid family, and assume control of the armies in Spain after the death of Hamilcar in 228 (Diod. Sic. 15.12.1; Polyb. 2.16-17). However, this system also held potential disadvantages. For example, when a family such as the Magonids, who had held military commands for long periods of time, fell from grace and were excluded from command by other factions, the new factions that assumed control potentially had no experience in military command. Whereas Polybius noted, that during the second century, a Roman politician required a minimum of ten campaigns before becoming eligible for office and subsequent military commands (Polyb. 6.19.1-5).¹⁸⁵ Consequently, Roman armies were able to draw upon a wider pool of military experience for leadership.

Moreover, like Roman and Syracusan armies, Carthage probably allowed mercenaries and allied auxiliary contingents, such as the Numidians to retain their own commanders. The Numidian prince Massanissa, who fought for the Carthaginians during the last quarter of the third century, commanded his own cavalry (Livy 35.34.3-6; 37.5.30).¹⁸⁶ Additionally, the particular loyalty of the mercenary and Numidian forces is attributed in the sources as belonging to their specific commander which would further suggest that they were under that individual's command. For example, in the closing stages of the Second Punic War when both Syphax and Massanissa switched their allegiance to the Romans their troops accompanied them (Livy 28.18-19; 35-36). A similar occurrence can also be seen in Spain where after capturing Nova Carthago, Scipio Africanus released the Iberian and Celtiberian hostages, which resulted in a reduction of their manpower in Carthaginian armies (Polyb. 10.34-37).

Unfortunately there is little evidence pertaining to the actual command structure of the individual units in Carthaginian armies, but it is likely that they varied according their weaponry and formation. If they fought in a phalanx it is probable that they had a similar command structure to the Greek phalanx, but lack of evidence makes discerning how strictly

¹⁸⁵ (Goldsworthy 2001) p.40

¹⁸⁶ (Goldsworthy 2001) p.33; (Scullard 1990) p.495

they adhered to this command structure impossible. Other units like skirmishers and slingers, may not have had a concrete command structure outside of a unit commander and his subordinate. Alternatively, they may have fought in mixed units as part of a larger 'cloud' type unit consisting of heavy and light troops in a manner potentially similar to other western Mediterranean armies.¹⁸⁷ The following sections will now isolate and discuss the evidence pertaining to Carthaginian, Celtiberian, Iberian, Libyan, and Libyphoenician infantry.

3.5. *Iberians and Celtiberians:*

The Iberians, and Celtiberians serving as mercenaries in the Carthaginian armies until the Barcid conquests in Spain (241-218), fought predominantly as either javelin armed skirmishers (*caetrati*), or heavy infantrymen equipped with thrusting spears and possibly also javelins (*scutati*) (Plates 13, 24.). During the period c.400-230 it appears that bronze helmets were not generally employed by Iberian and Celtiberian warriors and Quesada Sanz noted that there is as yet no proof that bronze helmets were used during this period.¹⁸⁸ This absence of evidence does not automatically translate to a total absence of bronze helmets and it is possible that some were employed.

Like Rome, there was no centrally organized state armoury in Carthage, or the Celtiberian, and Iberian regions of the Spanish peninsula during the third and fourth centuries. Therefore when these troops were fighting for Carthage, they fought with the equipment that they could afford. Plundering was a common occurrence and a may have been a motivating factor for troops, as it constituted one of the few ways in which soldiers could supplement their income and upgrade their equipment with pieces they otherwise would not been able to afford.¹⁸⁹ For example, Hannibal was able to equip his troops with the arms and armour of slain Romans after the victory at the river Trebia (Polyb. 3.87.3, 114.1). The ability to equip his soldiers with Roman equipment suggests, when viewed together with comparable archaeological evidence found throughout the western Mediterranean that Hannibal's troops were likely fighting with broadly similar military equipment to the Romans

¹⁸⁷ (Lendon 2005) pp.178-; (Quesada Sanz 2006) pp.245, 258-263;(Rich 2011) p.17(Rosenstein 2010) p.292

¹⁸⁸ (Quesada Sanz 2011c)

¹⁸⁹ (Keppie 1998) pp.54-55; (Rawlings 2007a) p.67,140,149-54; (Rawlings 2013a) p.5; (Rosenstein 2004) p.100; (Roth 2009) p.27,71; (Trundle 2004) p.99; (Van Wees 2004) pp.26-7

and their Italic allies. Moreover, after two decisive defeats it does not make sense for the Carthaginian army to have exchanged their familiar equipment for the different equipment of the defeated unless it was perceived to be useful in their pre-existing combat style. The following examination of the archaeological evidence indicates that the Iberian and Celtiberian mercenaries fighting for Carthage in Sicily or Africa fought with similar equipment to their Celtic and Italic contemporaries. That is not to say however that this homogenization of military equipment was not without its regional variations, because there most certainly was, but that this variation was generally confined to spears and javelins. The Celtiberian's were influenced primarily by the Celtic La Tène I and II culture, whilst among the Iberians weapons like the *falcata* which has Italic (*machaira*), and Greek (*kopis*) parallels developed in isolation.¹⁹⁰

Unfortunately there is very little information pertaining to the hierarchy of command for Spanish armies and units. It is conceivable to propose, that whilst they surely had some command structure, it was not as rigidly defined or adhered to as that of the Romans or Greeks and that command was governed by a looser tribal hierarchy where loyalty was given to their chieftains. Consequently, it may have been a combination of familial ties, client-patron relationships as well as the commander's strength of personality which ensured discipline and formation among Iberian and Celtiberian units.¹⁹¹ This thesis will illustrate that in the fourth century the various units in Carthaginian, Roman, and Syracusan armies fought in a less rigid formation akin to a 'cloud' that was able to expand and contract depending on the phase of the battle and therefore did not require the tactical discipline and thus the hierarchy of command to maintain their battlefield effectiveness.¹⁹²

Goldsworthy noted that the *scutati* fought in a "dense phalanx formation."¹⁹³ In light of recent academic studies and archaeological evidence the density of the Celtiberian and Iberian units and their adherence to the Greek styled phalanx should be questioned. For example, Hannibal placed himself in amongst the ranks of Celtic, Celtiberian and Iberian troops at the battle of Cannae where they steadfastly absorbed the full force of the Roman

¹⁹⁰ (Quesada Sanz 2011c) p.215

¹⁹¹ (Goldsworthy 2001) p.33

¹⁹² (Quesada Sanz 2006) pp.250-51,260

¹⁹³ (Goldsworthy 2001) p.32

Legions, who were themselves likely arranged in close order (Livy 22.46; Polyb. 3.113-116). Although they were able to fight in close order when the situation required, it is unlikely that Celtiberian and Iberian troops generally fought in a tactical unit that resembled the rigidly organized Greek phalanx, with its sub units the *enomotai*, *pentekostyes*, and *lochos*.¹⁹⁴ Indeed, as the following examination of archaeological evidence suggests, although Celtiberian and Iberian troops, like their Celtic, Italic, and North African contemporaries could and did fight in a dense unit when the situation called for it, they generally fought in a much looser formation consisting largely of light troops armed with javelins.¹⁹⁵

Certainly if Celtiberian and Iberian troops fought largely without body armour, as the archaeological record indicates, then fighting at close quarters would have rendered them extremely vulnerable to spear and sword wounds. Initially the Greek hoplite's heavy panoply developed in order to facilitate melee combat, but Iberian and Celtiberian troops do not appear to have had the same degree of defensive armour and thus were as physically not suited to close quarter combat.¹⁹⁶ They were likely able to contract into a dense formation, but it seems likely that this was used as a defensive not offensive formation akin to the medieval shield-wall. Archaeological evidence of weaponry suggests that Iberian and Celtiberian troops, like their Italic counterparts, were organized along familial or tribal lines with those troops who could afford the heavier panoply occupying the centre of the 'cloud', with lighter troops equipped with javelins surrounding them.¹⁹⁷ A consequence of the economic realities and social hierarchy of Iron Age societies was that only a small percentage of the population were able to equip themselves with expensive, heavy armour. Consequently the majority of troops were likely to be equipped with less expensive lighter weaponry such as the javelin. Therefore, if the majority of the Iron Age Iberian and Celtiberian armies fought with javelins, then fighting in a Greek styled phalanx would make

¹⁹⁴(Lee 2006) pp.483-484

¹⁹⁵ (Salmon 1967) p.49

¹⁹⁶For the Greek hoplite see: (Connolly 1981) pp.51-63; (Hanson 2000) p.27; (Hunt 2000) pp.111-117; (Rawlings 2013b) p.18

For Iberians and Celtiberians see:(Connolly 1981) pp.150-152; (Goldsworthy 2001) p.32; (Quesada Sanz 2011c) pp.211-213, 234

¹⁹⁷ (Quesada Sanz 2006) pp.250-51, 260

little sense because it would present an easy target for enemies to launch their missiles into, and would not provide adequate room for them to hurl their own missiles.

Iron Age battles in the western Mediterranean did not seem to solely consist of a furious initial melee. It appears they more commonly developed as a series of long drawn out skirmishes intended to whittle the enemies' numbers and morale down to such a state where the soldiers were willing to engage in melee combat.¹⁹⁸ In the Hellenistic regions of the eastern Mediterranean, battle practice also generally commenced with skirmishing, although this may not have lasted for as long as in the west.¹⁹⁹ The perception of missiles dominating certain sequences of battles is corroborated by the evidence of javelins in the physical archaeological evidence, and within artistic representations such as the tombstone of the Spanish mercenary in Tunisia, depicting heavy and light armed troops as equipped with javelins of some sort.²⁰⁰ It then becomes difficult to justify the appearance of javelins if they were not used during battle, and as such it can be reasonably argued that as heavy infantry also engaged in the exchange of missiles then this activity did constitute the dominant battlefield action. The physical exertion of fighting in close quarter combat meant that encounters of such a nature would rarely have lasted for more than fifteen minutes and in all probability were often shorter.²⁰¹ In some cases, if the first melee clash did not prove decisive the two bodies of troops would likely have retired to catch their breath and resume hurling what missiles they had left, before ultimately engaging again if both sides retained the will to fight.²⁰²

Archaeological evidence suggests that the Iberian and Celtiberian *caetrati*, possibly fought as lightly armoured skirmishers armed with javelins, as suggested by their weaponry; javelins and a small circular buckler-styled shield (*caetra*) from which they derived their name (Plate 14).²⁰³ Representational evidence of the *caetra* from Osuna, depicting two Iberian warriors holding their shields aloft, along with a physical example has been

¹⁹⁸ (Goldsworthy 2001) pp.57-58

¹⁹⁹ (Wheeler 2007) p.203

²⁰⁰ (Connolly 1981) p.150

²⁰¹ (Goldsworthy 2001) p.59

²⁰² (Goldsworthy 2001) p.59

²⁰³ (Goldsworthy 2001) p.32

discovered in the Necropolis of Griegos in Catalonia.²⁰⁴ As the *caetra* was light and small it would have not afforded the soldier adequate missile protection like the oblong shields, however, its relative lightness would have afforded the warrior excellent mobility, a key factor for skirmishing.²⁰⁵ Nor was the *caetra* an effective defensive weapon when used in melee combat against heavily armed troops as it did not protect enough of the soldier's body as the larger oblong and circular *hoplon* were able to. Therefore, it is likely that the *caetra* was a shield, not primarily designed for melee combat. Indeed, its iron boss, which could be used to deflect missiles, or close order blows together with its comparatively small size may suggest that it was particularly suited to raiding or skirmishing. Consequently, soldiers equipped with a *caetra* do not appear to have had the sole purpose of engaging in close quarter combat, unless it was advantageous or necessary.

Although oblong shields were common throughout the large parts of the Mediterranean, from Gaul to the Near East, the frequent association of the shield with Celtiberian and Iberian *scutati* is somewhat erroneous.²⁰⁶ For example, the oblong shield with iron boss was originally confined to north of the Ebro river in the "heavily Celticized panoply" of Catalonia where there was close contact with the La Tène culture and only appeared after 350.²⁰⁷ Polybius describes the Italic *scutum* as consisting of two layers of wood laid across each other in differing grains similar to today's plywood, and glued together with bull's hide glue together with an iron boss and rim (Polyb. 6.23). The physical dimensions of the *scutum* is further described by Polybius as measuring four feet (1.18m) by two and a half feet wide (0.74m), and a palm's breadth wide at the rim (Polyb. 6.23). Additionally a second century *scutum* discovered at Kasr el-Harit in Egypt measured 1.28m long by 0.636m wide, which roughly corroborates Polybius' description.²⁰⁸

Archaeologically, the oblong shield is attested in the Iberian southwest of the peninsula only after 225, but with parallel edges. Furthermore, iron rimmed oblong shields are only

²⁰⁴ (Slings.org) <http://slinging.org/wiki2/index.php/Main/IberiansAndCarthaginians> accessed March 12, 2015. Also see: (Garcia 1972) Pl.56; (Harrison 1988) p.119 fig.75;

²⁰⁵ (Quesada Sanz 2011c) p.213, 227, 228

²⁰⁶ (Connolly 1981) p.96 fig.1-2, 103 fig.12-13 118 fig.1-4; (Ellis 1998) pp.114-115; (Quesada Sanz 2011c) p.254 fig.26; (Quesada Sanz 2011a) p.138 fig.77

²⁰⁷ (Quesada Sanz 2011c) p.225, 227

²⁰⁸ (Bishop 2006) pp.61-62; (Burns 2006) p.157

occasionally identified in burial contexts and did “not become widespread.”²⁰⁹ These shields appear to have been introduced through an increased exposure to the shield during the fourth century when Carthaginian armies brought them into contact with Celtic and Italic soldiers who widely utilized them.²¹⁰ Therefore, the Spanish troops serving in Carthaginian armies between 350-264 who were equipped with the oblong shield were probably Celtiberians. It is uncertain how widely the oblong shield was adopted between 350-264 therefore the shields for spear wielding infantry appear to have been predominantly a larger wooden *caetra* with the average diameter being 60 cm and a central handgrip attached to the shield by long triangular iron wings.²¹¹

Archaeological evidence of javelins from the Spanish peninsula suggests that they tended to be either solid iron darts (*saunion/soliferrea*) or a heavier *falarica* with a wooden shaft, which is similar to the Celtic and Italic examples from Montefortino, Monte Bibebe, Montericco, and Vulci in addition to a bronze socket javelin from Latium, as well as the javelin described by Livy (Livy 21.8).²¹² The evidence of heavy, long and socketed javelin heads from Almedinilla appears to corroborate Livy’s description of a heavier wooden hafted javelin.²¹³ The *soliferrea* was a slender solid iron javelin that could reach up to two metres in length and weigh c.800 grams with a small barbed pyramidal head, examples of which have been discovered in Almedinilla near Cordoba (Plate 14).²¹⁴ Its weight and thin shank would have made it easy to throw multiple times by a soldier without too much physical exertion, thus making it suitable for the extended skirmishing that characterised western Mediterranean warfare. The dart-like design of the *soliferrea* may have been a result of the relative lack of armour used by Celtiberian and Iberian troops and other tribal peoples of Europe, most notably the Celts who are frequently depicted as fighting unarmoured or naked (Livy 2.28.7-8, 3.11 4.4).²¹⁵ Consequently, a *soliferrea* would be

²⁰⁹ (Quesada Sanz 2011c) p.225

²¹⁰ (Quesada Sanz 2011c) p.227

²¹¹ (Quesada Sanz 2011c) p.213

²¹² Spain: (Connolly 1981) p.150 fig. 1,2; (Quesada Sanz 2011c) p.214. For in depth examinations of the Italic examples see chapter three: Montefortino: (Tomczak 2012) p.57 fig. B-E; Montericco: (Small 2000) p.225; (Tomczak 2012) p.56 fig.10; Latium: (Connolly 1981) p.92 fig.14; Vulci: (Connolly 1981) p.98 fig.9; (Tomczak 2012) p.56 fig.9

²¹³ (Quesada Sanz 1992) p.123,135

²¹⁴ (Connolly 1981) p.150 fig.1; (Quesada Sanz 1992) p.124

²¹⁵ (Lazenby 1996) p.26

adequate when fighting opponents who were equipped with light armour or none at all, although it may have lacked the weight to penetrate oblong shields.

A similar misrepresentation of Celtiberian and Iberian military equipment can also be seen in the general tendency to regard the *falcata* as the most common sword type in the Iberian Peninsula. The *falcata* was almost exclusively confined to use by the Bastentani and Contestani peoples in the south east, and was relatively rare amongst the other people's living in Iberian territory.²¹⁶ The *falcata* is practically an unknown weapon among the peoples in the north and west of the Spanish peninsula.²¹⁷ The *falcata* had a heavy head which distributed a large amount of the sword's weight towards its tip, allowing it to be utilized as a slashing weapon, examples of which have been discovered at the cemeteries of Almedinilla, El Cigarralejo, and burial 48 at the 'El Poblado' cemetery of Comibra.²¹⁸ Similar shaped swords such as the Italic *machaira* and Greek *kopis* are well attested across the Mediterranean, and their appearance in Iberia may have resulted from exposure to the weapon through mercenary service in Sicily.²¹⁹ The antennae type sword was the dominant sword design in the Celtiberian north east, and the central Meseta of the Spanish peninsula.²²⁰ It was a long atrophied sword with an average length of between 34.4cm – 50cm suitable for both cutting and thrusting.²²¹ Quesada Sanz has recently shown that, although there was a relative homogeneity of the standard panoply consisting of; javelins, spears, and to a lesser extent swords, between 400-325, strong regional differences began to appear around both offensive weaponry such as swords (antennae type, *falcata*, and fronton), and defensively in terms of shield types (*caetra*/ oblong shield)

A number of spear heads were discovered in the graves of Almedinilla ranging from 15.9 to 57.5 cm in length, with an average of 33.44 cm, and when viewed with other examples from Iberia illustrate that they were primarily elongated leaf shaped.²²² The funerary context in which these spears heads were discovered may indicate that the thrusting spear was the offensive weapon of wealthy members of society. A soldier equipped with a thrusting spear

²¹⁶(Quesada Sanz 2011b) p.49

²¹⁷(Connolly 1981) p.150; (Quesada Sanz 2011b) p.49; (Quesada Sanz 2011c) p.213,214, 215

²¹⁸(Connolly 1981) p.150 (Goldsworthy 2001) p.32; (Quesada Sanz 2011c) p.214; (Quesada Sanz 1992) p.134 (Quesada Sanz 2014) p.88,89; (Quesada Sanz 1998)) p.15,16; (Slinging.org)

²¹⁹*Kopis* see chapter two Greeks; *Machaira* see: Chapter two Oscans, and Greeks, and Chapter three Etruscans and Latins.

²²⁰(Quesada Sanz 2011c), p.211-212, 214

²²¹(Quesada Sanz 1997a) p.255

²²²(Connolly 1981) p.150 fig.3 (Quesada Sanz 2011c) p.214; p.249 fig.21 (Quesada Sanz 1992) p.122, 135;

would have expected to enter into close quarter combat, and thus would have likely sought body armour in order to protect themselves. Whilst metallic body armour is rarely attested in the archaeological record during the fourth century, it is likely that some Celtiberian and Iberian mercenaries were equipped with either leather or linen body armour.²²³ This illustrates that it is likely that heavy Celtiberian or Iberian troops were armed in a similar manner to contemporary Italic, Greek, and Carthaginian soldiers, and that they could similarly function as both heavy skirmishers and line infantry.²²⁴ Indeed, examples of similar weaponry from among Italic soldiers suggests that Celtiberian and Iberian troops likely acted as dual purpose infantry, who were able to launch volleys of javelins, and were equally adept when the situation required, to engage with their opponents in close quarter combat. This fighting style and their adoption of the Montefortino helmet and oblong shield by the end of the third century strongly suggests that mercenary service in Carthaginian and Syracusan armies with Italic troops worked together with their proximity to the Celtic La Tène culture and may have facilitated the transmission of such military equipment into the Spanish peninsula.²²⁵ Thus, it appears that the frequent employment of mercenaries by Carthage and Syracuse over Sicily facilitated the development of a western Mediterranean military *koine* from the fifth century onwards.

3.6. *Libyan and Libyphoenician Infantry:*

The Libyan and Libyphoenician infantry appear to have formed the backbone of Carthaginian armies.²²⁶ At the battle of Crimisus they contributed 10,000 troops and during the struggle against Agathocles they again provided 10,000 troops for Hamilcar's force that landed in Sicily in 311, as well as likely providing a large percentage of the 30,000 troops raised towards the end of the campaign (Diod. Sic. 19.106.11; 20.59-60). It is difficult to discern the precise conditions with which Libyan and Libyphoenicians were recruited into Carthaginian armies and some may have served as mercenaries whilst others may have been sent by their communities to fulfil treaty obligations with Carthage. Indeed, it is likely that this

²²³ (Quesada Sanz 2011c) p.213

²²⁴ (Quesada Sanz 2011c) p.215

²²⁵ Connolly, 1981 #2) p.150 fig.11, 12,14; (Cunliffe 1997) p.143 fig.114,115; (Quesada Sanz 1997b) P.257,259, 262-266; (Quesada Sanz 2011a)pp.140-156;(Quesada Sanz 2011c) pp.214-216, 222, 225, 227; (Salimbeti 2014) p.40

²²⁶ (Ameling 2011) p.48; (Connolly 1981) p.148; (Lazenby 1996) p.26; (Picard 1994) p.379; (Salimbeti 2014) p.17; (Scullard 1990) p.504

varied depending upon the soldier's personal circumstances and their patrons or communities specific relationship with Carthage. However, the Libyans and Libyphoenicians probably supplied both light skirmishers and heavy infantry in a similar manner to the Iberian and Celtiberian mercenaries.²²⁷

The light infantry (*lonchophoroi*) were likely armed similarly to the Celtiberian and Iberian *caetrati* with a small round buckler type shield, together with several javelins, and thus are likely to have fought in a skirmishing role.²²⁸ Whether these light troops wore armour is unknown, but it is likely that there would have been some who either could afford to, or had looted some form of light armour from their campaigns in Sicily. If this was the case, due to their role as skirmishers, which required mobility and hurling multiple javelins and thus a degree of upper body freedom, it is likely that their armour, if any was worn, consisted of a *cardiophylax*, *linothorax* (λινόθώραξ), or *spongia*.²²⁹ The *linothorax* constituted a popular piece of body armour in Italy and Greece from the Archaic period through to the Hellenistic and it consisted of four panels, of linen, two sides and a front and rear (Plates 21-23).²³⁰ It was constructed by multiple layers of "linen glued together to form a stiff shirt about 0.5cm thick," and modern reconstructions have shown that it could weigh 3.5kg as opposed to the 13-18 kg of a metallic cuirass.²³¹ This significant discrepancy in weight would have allowed the wearer greater mobility and flexibility, which helped facilitate a lighter more mobile method of warfare. *Pteryges* are also "regularly found on linen corselets."²³² *Pteryges* were stiffened linen or leather strips that were attached to the bottom of the cuirass in order to protect the legs from missiles. Xenophon advised that these flaps be constructed of a material, and such size to provide adequate protection against missiles (Xeno *Art of Horsemanship* 12.1.3). The addition of *pteryges* to light linen cuirasses illustrates that protection from javelins was as important for the Italian soldier as mobility. Representational evidence from the reliefs at Chemtou and votive-stelae from 'the island of

²²⁷ (Bagnall 2005) p.9;(Scullard 1990) p.494; (Goldsworthy 2001) p.32; (Trundle 2013) p.340

²²⁸ (Goldsworthy 2001), p.32

²²⁹ The *cardiophylax* and *spongia* will be discussed in depth in chapter two (see pp.77-80)

²³⁰ (Aldrete 2013) pp. 73-85; (Burns 2006) p.104; (Gelba 2012) P.54

²³¹ (Burns 2006) p.106; (Connolly 1981) p.58

²³² (Burns 2006) p.90

the Admiral' in Carthage itself depict cuirasses fitted with *pteryges* (Plate 23).²³³ In the end, however, it would also have come down to personal preference.

In Greece the hoplite had been gradually adopting lighter body armour from the fifth century onwards, and the popularity of the *linothorax* in representational evidence may also reflect this general trend.²³⁴ The lower cost of the *linothorax* compared to its bronze counterpart may also account its popularity. Furthermore, the heavy and restrictive metallic cuirass was likely rendered redundant by the flexible, skirmishing orientated warfare in the western Mediterranean facilitated by the widespread use of javelins.

Second century javelin heads from Es-Soumaa point to different types of shankless javelins in use some, with long slender rounded heads akin to the medieval bodkin arrow, were probably used for longer distances and armour piercing, whereas the presence of four sided heads are likely to have been more of an impact weapon at closer range (Plate 26).²³⁵ These shankless javelins match the description given by Silius Italicus of Libyphoenician javelins and have physical similarities to those described by Xenophon in addition to those associated with Numidian cavalry and Greek *peltasts* (Sil. *Pun.* 3.250; Xen. *Hunt.* 10.3).²³⁶ The Libyan and Libyphoenician heavy infantry were possibly armoured in a similar manner to the Greek hoplite, with a bronze cuirass or *linothorax* and a *hoplon* type shield together with a bronze helmet and a heavy thrusting spear with a leaf shaped head.²³⁷ It is also probable that some, if they could afford it, carried a short sword similar to the 'cut and thrust' sword found in the Es-Soumaa grave for a close quarter combat weapon.²³⁸

The possibility of every soldier being uniformly armed is unlikely due to the financial costs involved, or presence of inherited equipment, and the lack of a state armoury. For example, a southern Italic triple disc cuirass (*spongia*) was discovered at Ksour Essaf dated between the third and fourth century and indicates the possible variation of body armour

²³³ (Connolly 1981) p.147; (Salimbeti 2014) p.28,33

²³⁴ (Krentz 2013) p.135; (Krentz 1985) p.61; (Schwartz 2013) p.169

²³⁵ (Salimbeti 2014), p.39

²³⁶ (Connolly 1981) p.49 fig.1,6, 149-150; (Goldsworthy 2001) p.32; (Salimbeti 2014) p.38,39

²³⁷ (Goldsworthy 2001) p.32; (Lazenby 1996) p.26; (Salimbeti 2014) p.59

²³⁸ (Connolly 1981) p.150

available.²³⁹ It also illustrates that North African troops were not being solely influenced by Greek or Hellenistic military trends, but rather that they were active participants in the transfer of western Mediterranean military technology. This phenomenon is seemingly corroborated by a third century fragmentary stela from Carthage which depicts a Carthaginian war-god Adad wearing a Montefortino helmet.²⁴⁰

Consequently, although some North African heavy troops may have fought in a formation similar to the Greek phalanx, their equipment may have varied from soldier to soldier and some may not have worn body armour. There is also representational evidence that provides further examples of the arms and armour utilized by soldiers fighting in Carthaginian armies. In Sicily, a bronze statuette of a Carthaginian soldier dating to the fifth century wears a crested metallic helmet with what resembles hinged cheek pieces, a leather or *linothorax*, and is holding a circular shield.²⁴¹ A jasper scarab ornament dating to the fourth century from Kerkouane (Tunisia) shows a file of four hoplite-styled soldiers marching in unison.²⁴² Additionally, a sixth century bronze proto-Corinthian helmet from Sulcis (Sardinia) together with an image of a Thracian helmet found on a Carthaginian coin in Carthago Nova in Spain dating to the third century indicates that some North Africans had adopted Greek arms and armour in the centuries prior to their frequent military interactions with the peoples of the wider western Mediterranean.²⁴³ Furthermore, representational evidence of the *hoplon* styled shield where multiple images can be found on the monument at Chemtou (Tunisia) and also on the third century monumental relief at the Numidian sanctuary of Khbour-Clib.²⁴⁴

Diodorus, and Polybius describe the North African heavy infantry as fighting in a phalanx against Agathocles in 310, and the Romans in 255 (Diod. Sic. 20.10.38; Polyb. 1.33.17). However, the phalanx is a frequently used term for any dense body of soldiers fighting with a spears or sword. Therefore the application of the term phalanx has the potential to become an overly simplified general term which does not reflect the reality of the

²³⁹ (Hoyos 2010) p.160,162; (Salimbeti 2014) p.34

²⁴⁰ (Salimbeti 2014) p.45

²⁴¹ (Salimbeti 2014) p.13

²⁴² (Hoyos 2010) p.159,162

²⁴³ (Salimbeti 2014) p.21,22, 36

²⁴⁴ (Connolly 1981) p.147; (Salimbeti 2014) p.21-22,36

battlefield as has already been noted with the Iberian and Celtiberian troops. The previously discussed archaeological evidence from Chemtou, Sicily, and Sardinia seems to indicate that the infantry could have fought in a dense formation in which the *hoplon* shield and thrusting spear were suited, but it cannot be proved that they used this formation as their primary tactic.

Libyan soldiers have tended to be viewed as having provided the “steadfast and most disciplined element” in Carthaginian armies.²⁴⁵ This may have been due to the equipment that they were able to arm themselves with. For instance, archaeological evidence of North African soldiers suggests that they were able to equip themselves similarly to Greek hoplites, which possibly substantiates this view. By the middle of the fourth century military developments in both Greece and Macedonia had led to the gradual lightening of hoplite equipment. This resulted in the bronze cuirass being gradually replaced with the *linothorax*, or none at all.²⁴⁶ For example, the Athenian public military training program the *ephebeia* had after 335 begun to issue graduates of this program with only a spear (*doru*) and shield (*hoplon*).²⁴⁷ This possibly illustrates that the cuirass was no longer considered a vital element for a hoplite to serve effectively in the phalanx, which now derived its strength through the adherence to a dense formation.²⁴⁸ The tactical consequence was that the individual soldier was less suited to fighting outside of the phalanx and thus the need to stay in a rigid and dense formation became paramount to the phalanx’s effectiveness, and survival of the individual.²⁴⁹ Therefore, if North African soldiers were armed similarly to their Greek contemporaries, it is quite possible that they were seen as the most disciplined element in Carthaginian armies because their effectiveness and survival was dependent them maintaining their formation.

The *hoplon* styled shields and *linothorax* of the Chemtou reliefs illustrate that, unlike the Iberians and Celtiberians, it is possible that some wealthy troops wore armour that facilitated fighting at close quarters. However, similar evidence from Etruria and Latium also

²⁴⁵ (Goldsworthy 2001) p.32

²⁴⁶ (Snodgrass 1967) pp.90-96; (Lee 2006) P.503; (Van Wees 2004) p.48

²⁴⁷ (Bertosa 2003)p.361,363; (Lendon 2005) p.109

²⁴⁸ (Rawlings 2013a) p.22-3; (Van Wees 2004) p.197

²⁴⁹ (Van Wees 2004) p.197

suggests that some wealthy troops could equip themselves in a manner similar to Greek hoplites, but it is widely argued that they were not fighting in classical Greek phalanxes.²⁵⁰ Consequently, the degree to which Libyan and Libyphoenicians adhered to the Greek phalanx is uncertain and they may have fought with some soldiers armed in a similar manner to Greek hoplites in the front with lighter skirmishers filling the rear ranks. Alternatively, as Quesada Sanz has argued in regard to second century Iberian, Celtiberian, and Roman armies may have fought in a 'cloud' like unit where the heavily armed troops potentially have formed a core around which the lighter javelin armed troops expanded and contracted depending on the phase of battle.²⁵¹ Thus, when engaged in melee combat the heavier troops possibly did contract into a phalanx like formation, with the lighter units retreating behind them and offering support. Asclepiodotus writing in the first century refers to light troops being integrated into the phalanx in precisely this manner, naming the tactic *parentaxis* (Asclep. *Tact.* 6). Therefore whilst it cannot be proved that the North Africans did not fight in a phalanx, the available archaeological evidence in conjunction with methods of warfare from Greece and Italy supports that this was at least possible in some circumstances.

3.6. Carthaginian citizen soldiers:

Polybius believed that the Carthaginians tended to ignore their citizen infantry, and this statement is usually interpreted as an illustration of the Carthaginian citizenry not serving in the armies (Polyb. 6.52.7) but a closer inspection of the literary evidence suggests otherwise. Carthaginian citizens and the elite infantry unit, the Sacred Band, appear to have served in the war against Agathocles in North Africa and Syracuse (310-307). Diodorus, reported that Hamilcar, son of Gisco, sent an army to besiege Syracuse, which included 2,000 citizens in an army of 10,000; albeit many of whom were reported as being aristocrats (Diod. Sic. 19.106.9-10). If the majority of this citizen contingent was made up of aristocrats, the remainder must have been drawn from the lower ranks of Carthaginian society, and possibly may have been willing to fight overseas for pay or plunder. In 307 Carthage

²⁵⁰ (D'Agostino 1991) pp.59-82; (Harris 1990) p.508; (Momigliano 1963) p.119; (Rich 2011) pp.7-20; (Rosenstein 2010) pp.290-299

²⁵¹ (London 2005) pp.178-192; (Quesada Sanz 2006) pp.245-263

equipped 30,000 men and split them into three separate armies of 10,000 men each. Diodorus noted that they were dispatched from Carthage. However, Diodorus also recorded that the city was full of refugees from the surrounding area which renders it possible that armies were a mixture of Libyans, Libyphoenicians, and Carthaginian citizens (Diod. Sic. 20.59-60).

In general, however, Carthaginian citizens are not frequently mentioned as serving in the army after 307 until a brief mention by Polybius of Hanno, son of the *suffete* Bomilcar, illustrates that some aristocrats accompanied Hannibal in 218 (Polyb. 3.42.18-19). It seems unlikely that, apart from populating the officer corps, no Carthaginian citizen fought in the army between the years 307-218, and it may only reflect that outside of the officer corps the citizens fighting were not of sufficient social status to be deemed worthy of mention. However, if Carthaginian literature was available, this Roman-centric picture may change. If Hannibal was accompanied by fellow aristocratic citizens, it was probably as clients of the Barcid family. The factionalism and patron-client relationships in Carthaginian politics appears to have been similar to that operating in Rome.²⁵² Therefore, Barcid supporters were likely to have been expected to serve alongside their benefactors to whom their fortunes were tied. Consequently, it is likely that any Carthaginian officer would have been accompanied on campaign by his client retainers, and this may be the reason why Polybius remarked that the Carthaginians only slightly cared about their cavalry (Polyb. 6.52.7-8) as they were the section of Carthaginian society most able to afford horses. As Carthage was adept at hiring mercenaries, there is a possibility that some Carthaginian citizens from the lower levels of society chose to serve for pay, but the lack of information available cannot prove this assumption beyond doubt.

The Sacred Band is the most widely recognised citizen element in our sources, but it is not recorded as specifically serving as a unit after the defeat at Crimisus, and this may in fact represent the withdrawal of only the aristocratic infantry. Indeed evidence suggests that after Crimisus many Carthaginian elites became owners of large estates and thus possibly began to replace their military presence with Libyan/Libyan-Phoenician levies from their

²⁵²(Denuaix 2006) pp.401-416; (Drogula 2015) pp.22-23; (Drummond 1989) pp.89-110; (Goldsworthy 2001) pp.42-44; (Sage 2013) p.218; (Wallace-Hadrill 1989) pp.66-85

estates, or alternatively personally paid for the recruitment of mercenaries to fight in their place.²⁵³ Literary descriptions of the Sacred Band indicated that they were wealthy enough to equip themselves with expensive Greek hoplite-styled panoplies (Diod. Sic. 16.80.4-5; Plut. *Timo*. 28.1-2). Similar evidence of aristocratic warriors from Etruria and Latium suggests that some Carthaginian elites were likely able to arm themselves with panoplies consisting of bronze helmets, bronze cuirass or *linothorax*, possibly greaves, together with a thrusting spear, *hoplon* styled shield, and a short sword for close combat. Evidence from Greece and Italy also indicates that spears varied between 1.8 to 2.5 metres in length with the average being 2.25m, and weighed around one kilogram.²⁵⁴ The shields, if they were closely modelled on the *hoplon* were rounded and slightly convex with a flat rim, and a diameter of between 80cm- 100cm, with a bronze covering sheet of around 0.05cm.²⁵⁵ Modern reconstructions of the *hoplon* shield have shown that the shield weighed between seven and nine kilograms.²⁵⁶

A fifth century bronze statuette of a Carthaginian warrior depicting a soldier in classical Greek hoplite panoply, together with a proto-Corinthian helmet, and bronze greaves from Sulcis (Sardinia), may have led to a distorted view of uniformity in Carthaginian armour and an adherence to the Greek hoplite panoply.²⁵⁷ In a similar manner to Italic and Greek heavy infantry, it is likely that the arms and armour of the Sacred Band varied greatly due a number of factors such as; financial concerns, the competition of status among the elites which manifested itself in the expense one could afford to spend on their equipment and the inheritance of equipment, together with battlefield spoils.

Diodorus' account of the battle of Crimissus provides the best example of the Sacred Band in action recording that they were recruited from the ranks of citizens "who were distinguished for their valour, reputation, and wealth" (Diod. Sic. 16.80.4).²⁵⁸ This selection criteria indicates they were experienced fighters and sufficiently socially respected to be positioned on the right hand side of the battle-line. This was traditionally the position of

²⁵³ (Goldsworthy 2001) p.33

²⁵⁴ (Connolly 1981) p.63; (Matthew 2009) p.400

²⁵⁵ (Burns 2006) p.149; (Connolly 1981) pp.52-53; (Schwartz 2013) pp.157-158

²⁵⁶ (Connolly 1981) pp.52-53; (Krentz 2013) p.136; (Schwartz 2013) p.169

²⁵⁷ (Salimbeti 2014) p.5,13,32

²⁵⁸ ταῖς δ' ἀρεταῖς καὶ δόξαις, ἔτι δὲ ταῖς οὐσίαις

honour granted to the best units.²⁵⁹ The Sacred Band is recorded as fighting bravely even when their surrounding forces are routed (Diod. Sic. 16.80.4). If correct, they are likely to have been exposed to extensive military discipline and training. Therefore, it is possible that the Carthaginians who fought in the Sacred Band may have devoted a large amount of time to military training in order to fight and die without breaking ranks. Yet, in 310, the Sacred Band was easily routed along with a largely citizen army by Agathocles which may reflect the withdrawal of wealthy Carthaginian citizens from military service between 341-310. Consequently, Polybius' remark that the Carthaginians did not devote much time to the arts of war cannot readily be applied to the Carthaginian army pre-341 but is possibly applicable to the army thereafter (Polyb. 6.52.7-8).

The archaeological evidence from Chemtou suggest that, if Carthaginian citizens did serve in the armies outside of the Sacred Band or the cavalry, then they were likely equipped similarly to the heavy Celtic, Celtiberian, Iberian, Italic, Libyan, and Libyphoenician infantry with thrusting spears, *linothorax*, bronze helmets, *hoplon*, and a possibly either a short sword, or axe. Furthermore congruencies across the western Mediterranean suggests that if poorer citizens did indeed serve in the army, they were likely to have been equipped in a similar manner as light javelin armed skirmishing troops; with whatever armour they could either afford or have looted.

3.8. Celtic, Italic, and Greek Mercenaries:

Celtic, Italic, and Greek mercenaries are also recorded as fighting at various times in Carthaginian armies, but they do not appear to have served with much greater frequency as Celtiberians and Iberians discussed previously in this chapter (Diod. Sic. 13.110.5, 14.8.5, 16.73.2; 25.2; Polyb. 1.17.4). Therefore, they will be examined in detail in the following chapters that focus on Roman and Syracusan armies where they appear more regularly.

²⁵⁹ (Connolly 1981) p.32; (Hanson 1988) p.194; (Lendon 2005) p.69,80,107,121; (Pritchett 1974) p.192

3.9. Summary:

In conclusion, although there were apparent differences within the Carthaginian and Roman political systems, such as the *suffetes* being denied military commands, and the Carthaginian council of 104, they appear to have operated in remarkably similar ways.²⁶⁰ Furthermore, Carthaginian hegemony, like Rome's and Syracuse's, appears to have been similarly light-handed and although it differed from Roman hegemony, in that it was primarily focused upon extracting financial revenues in lieu of military manpower, this enabled Carthage to acquire the money to employ large numbers of mercenaries from across the western Mediterranean.²⁶¹ Indeed, it is likely that the extent of Carthaginian hegemony was a major factor in the inter-connectivity of the western Mediterranean and helped account for the diversity of mercenaries serving in Carthaginian armies. Additionally, common evidence suggests that the large scale of mercenary service in Carthaginian armies helped to facilitate the transmission of Celtic and Italic military technology into Iberia, North African, and Sicily.²⁶² Thus, Carthaginian hegemony and their use of Celtic, Celtiberian, Iberian, Italic, and to a lesser extent Greek mercenaries appears to have been a major influence in the development of the western Mediterranean military *koine*. Finally, the congruencies of evidence discussed in the following chapters on Rome and Syracuse will further demonstrate that Carthaginian armies were not fighting with radically different military equipment, nor were their military systems or hegemonies able to drastically alter the tactics with which they naturally fought.

Chapter Four: Syracuse

4.1. Overview.

This chapter will examine the role that Syracuse played in the development of the western Mediterranean *koine* from the fifth century onwards. It intends to illustrate that this occurred through its employment of similar foreign mercenaries to those who also served in contemporary Carthaginian armies. Indeed, it appears that from the fifth century Sicily

²⁶⁰ (Goldsworthy 2001) p.30,35; (Hoyos 2015) p.17; (Lazenby 1996) p.20; (Scullard 1990) p.490; (Warmington 1969) p.142

²⁶¹ (Goldsworthy 2001) p.36; (Lazenby 1996) p.26; (Scullard 1990) p.487; (Warmington 1969) p.134

²⁶² (Connolly 1981) p.150 fig.11, 12,14; (Cunliffe 1997) p.143 fig.114,115; (Quesada Sanz 1997b) P.257,259, 262-266; (Quesada Sanz 2011a)pp.140-156; (Quesada Sanz 2011c) pp.214-216, 222, 225, 227; (Salimbeti 2014) p.40

became the most important theatre for the development of the western Mediterranean military *koine*. The frequent conflicts between Carthage and Syracuse drew together Carthaginian, Celtic, Celtiberian, Iberian, Italic, Greek, Libyan, Libyphoenician, Numidian, and Sicilian troops. The interaction of these troops facilitated a two way flow of military equipment, for example the *falcata* and oblong shield were likely first encountered by Iberian and Celtiberian troops whilst in Syracuse and gradually begin to appear in Spanish contexts thereafter. Furthermore, as previously discussed, Italic *spongia* and Celtic Montefortino helmets also appear in Carthaginian contexts during this period of interaction. Moreover, although it is outside of the scope of this paper, Sicily would continue to facilitate the development of the western Mediterranean military *koine* with the outbreak of the First Punic War, which again drew together the same mixture of troops.

Sicily strategically sits between the toe of Italy and North Africa's Cape Bon. This position allowed Sicilian communities to profit from any trade passing through to the western Mediterranean and to increase the island's already diverse population consisting of native Elymians, Sicans, and Sicels, in addition to Greeks, Italians, and Phoenicians. Between the fifth to third centuries these trading links combined with the stream of Balearic, Celtic, Greek, Iberian, Italic, and Carthaginian mercenaries migrating to Sicily cemented the power of a number of tyrants. The mercenaries, who were frequently settled among the communities of eastern Sicily, contributed further to the cultural and military diversity of the island. This diversity was fostered by the tendency of tyrants to, not only settle their loyal mercenaries amongst their communities, but also to redistribute the populations of other Sicilian communities, which themselves were likely to have consisted of more than one ethnicity. Between 494-288 there were 41 recorded instances of mercenaries being settled among existing communities, or the transfer of these communities to other Sicilian cities.²⁶³ Moreover, the settlements and transfers of populations were not small-scale rather they frequently involved thousands of people.²⁶⁴ For example, in 488-84 Gelon transferred half of the population of Gela to Syracuse, as well granting 10,000 mercenaries Syracusan citizenship and Dionysius I sold the citizens of Catane as slaves before settling his Campanian mercenaries in the city (Diod. Sic. 11.72-8, 14.15; Hdt 7.156). All of this evidence

²⁶³ (Lomas 2006) pp.98-100 tbl.7; Diod. Sic. 11.72-8, 11.49, 11.76, 12.53, 12.83, 13.63, 13.89, 13.111, 13.114, 14.7, 14.9, 14.15, 14.16, 14.37.5, 14.58, 14.59, 14.78.3-6, 14.87, 14.96, 15.66.5, 16.69, 16.82-3, 20.69, 20.71, 22.13.2; Herodotus. 6.24-6, 7.156; Polyb. 1.7-11; Strabo. 6.2.3; Thucy. 6.4.6

²⁶⁴ (Lomas 2006) pp.95-116

appears to corroborate Thucydides' statement that the "Sicilian cities have enlarged populations made out of all sorts of mixtures and there are constant changes and rearrangements in their citizen bodies" (Thuc. 6.17.2).²⁶⁵ The ethnic, cultural, and military diversity in Sicily indicates that it was firmly entrenched in the western Mediterranean *koine*. Therefore, its military and political developments should be viewed as part of the same phenomenon as those occurring at Carthage and Rome. The following chapter will examine Syracusan tyranny in order to illustrate how the actions of its tyrants contributed to this diversity and ultimately the development of the western Mediterranean military *koine*.

4.2. Syracusan Tyranny:

Politically, Syracuse was dominated by tyrants and literary evidence suggests that between the fifth and third centuries, it was only under democratic control for just two periods: 460-406 and 341-317 (Arist. *Pol.* 1316a; Diod. Sic. 11.68.6, 16.70.4, 19.1.5; Thuc. 7.55.2).²⁶⁶ However, as this chapter will illustrate, the socio-political dynamics at work within Syracuse should not be considered as radically different to those in Carthage and Rome. Indeed, all of the Syracusan tyrants were at first elected to the position of *stratēgos autokratōr* (General who rules by himself) by the popular assembly.²⁶⁷ This potentially suggests that Syracusan tyrants obtained control in a similar way to Roman dictators, who were also elected by the Senate and given extraordinary powers (albeit temporary) over the state in very similar conditions that required effective military command.

The characterisation of tyrants ruling as cruel and despotic leaders without the general support of the *demos* by ancient writers has resulted in a general misconception of both tyrants and tyranny (Arist. *Pol.* 1295a; Pl. *Resp.* 8.565). A tyrant represented the domination of the aristocracy by an individual, which makes the line between tyranny and monarchy blurred (Arist. *Pol.* 1295a).²⁶⁸ Aristotle also noted that a tyrant "rules despotically and according to their own judgement," giving the impression that they ruled without adhering

²⁶⁵ ὅχλοις τε γὰρ συμμείκτοις πολυανδροῦσιν αἱ πόλεις καὶ ῥαδίας ἔχουσι τῶν πολιτῶν τὰς μεταβολὰς καὶ ἐπιδοχάς

²⁶⁶ (Dunkle 1967) p.161; (Hornblower 2011) p.51; (Lewis 2006) p.3; (Lomas 2006) p.95; (Robinson 2000) p.204

²⁶⁷ στρατηγός αὐτοκράτωρ (Lewis 2006) p.4

²⁶⁸ (Hornblower 2011) p.51; (Lewis 2006) pp 3-14; (Zambon 2008) p.268

to the communities' civic, legal, and political structures (Arist. *Pol.* 1295a- 19-23).²⁶⁹ However, revisionist studies have shown that under tyrants the civic institutions and magistracies continued to operate with little or no changes to them or the "constitutional regimes." Thus, in many cases a tyrant can be seen as working with the *demos* not overriding it.²⁷⁰ Dionysius I addressed the Syracusan assembly for permission to wage war because they were the people who were going to pay for and physically fight the war for him (Diod. Sic. 14.45).²⁷¹ Consequently, despite Dionysius I and Peisistratus providing examples that the popular assembly was empowered to undertake debates and make decisions on important issues, it was not effectively in control of state policy and as such may have been employed as a mollifying façade by tyrants.²⁷² However, this then presents a political system that was not all that dissimilar to that in Rome and Carthage where the popular assembly was regularly consulted in order to persuade the citizen body that they were able to exercise political power, whilst the real power remained in the hands of the ruling aristocrats and the senate they occupied.

Furthermore, although tyrants are frequently associated with obtaining power with the help of armed foreign mercenaries, it is unlikely that tyrants were able to achieve this without the support of other aristocrats and political factions that stood to benefit from tyranny. These supporters are likely to have been members of the tyrant's family and other aristocratic families, or clients, which were likely to have already been aligned with the tyrant before his rise to power. For instance, Agathocles, Dion, and Dionysius were all associated with powerful disaffected aristocratic supporters before obtaining power (Diod. Sic. 13.91.4, 92.6, 96.3; 16.6.1, 9.1; 19.3.1-2; Plut. *Dion* 22.1-5, 25.14, 49.4).²⁷³ Christopher Smith interestingly noted with regard to Rome that the pre-eminence of Camillus and the control of the Consulate by the Fabii following the death of the would-be tyrant Spurius Cassis resembled the triumph of "one individual, or family over another."²⁷⁴ Consequently, tyranny can be viewed as the domination of a political faction over its opponents as much as it was the domination of one man over others. Therefore, the tyrants of Syracuse appear to have been not all that dissimilar to the Consuls of Rome and *suffetes* of Carthage who acted

²⁶⁹ τυραννικαὶ δὲ διὰ τὸ δεσποτικῶς ἄρχειν καὶ κατὰ τὴν αὐτῶν γνώμην

²⁷⁰ (Lewis 2009) p.125; (McGlew 1993) p.9

²⁷¹ (Lewis 2009) p.125

²⁷² (Meister 1984) p.717

²⁷³ (Parke 1933) p.64

²⁷⁴ (Smith 2006a) p.59

as the heads of state, whilst representing the political and familial factions, albeit for a finite period.

Aristocrats were heavily involved in both the physical fighting and the recruitment of soldiers for their respective communities during the archaic and classical periods. Their money, social status, and patron-client relationships allowed them to muster troops through their family and its associated clients, as well as contributing money towards the costs of mercenary recruitment. Consequently the Syracusan tyrants' ability to raise private mercenary armies, which bolstered the troops they were able to raise through client, factional, and familial connections made them similar to the contemporary armies of Carthage and Rome. However, the employment of mercenaries was not the only way in which tyrants were able to consolidate their power and they often achieved this with relationships with powerful foreign aristocrats through a combination of friendships, marriages, both foreign and domestic in addition to military alliances (Arist. *Pol.* 1285a, 1311a).²⁷⁵ This shares parallels with Carthaginian and Roman extensions of aristocratic socio-political power dynamics. For example, Hannibal married an Iberian princess and the Fabii married into a prominent Campanian and Etruscan families.²⁷⁶

Agathocles and Dionysius I first gained the opportunities to seize power with support of powerful aristocrats (Diod. Sic. 13.91-92; 19.3.1-2).²⁷⁷ All three marriages of Dionysius I were to highly influential aristocratic families and Agathocles married his daughter to Pyrrhus, while he married a Ptolemaic princess (Diod. Sic. 14.44.8, 21.4.1; Just. *Epit.* 23.2; Plut. *Pyrrh.* 9.1). Moreover, Dionysius I came to power and soon received the support of the Spartans, who in turn allowed him to recruit mercenaries from the Peloponnese, whilst his second and third marriages allied him with aristocratic families in Lorci and Rhegium (Diod. Sic. 14.10.2, 44.3, 58.1; 62.1).²⁷⁸ There are also instances where Syracuse provided mercenary support for her allies, which illustrates the cultural and military exchange occurring across the western Mediterranean. For example, Dionysius I sent 2,000 soldiers to

²⁷⁵ (Jackson 2006) p.41 p.69; (Trundle 2006) p.75

²⁷⁶ (Goldsworthy 2001) p.33; (Heurgon 1973) p.192, 217-218; (Scullard 1990) p.505

²⁷⁷ (Meister 1984) p.385

²⁷⁸ (Parke 1933) p.68

Illyria in an attempt to place the exiled Molossian Alcetas on the throne, whilst his son sent 2,000 foreign mercenaries to Sparta (Diod. Sic. 15.13.2; 15.70.1; Xen. *Hell.* 7.1.20, 30).²⁷⁹

These previously discussed phenomena helped to not only cement the tyrants' power base domestically and abroad, but also promoted a high level of aristocratic, cultural, and technological inter-connectivity throughout the western Mediterranean. This mixture of inter-connectivity transcended communal and ethnic boundaries, thus illustrating that the perceived cultural and political differences between the peoples of Italy, Greece, Sicily, and North Africa were not significantly dissimilar, but rather they were bound by common aristocratic relationships and similar socio-political power dynamics.²⁸⁰ Furthermore, mercenaries were employed under a wide range of political regimes from Hellenistic Kings, to oligarchies, and tyrannies.²⁸¹ The relationships created by the recruitment, service, and settlement of these troops transcended the domestic politics of the entities that hired them, helping to foster an international system of military connectivity.²⁸² Indeed as Trundle noted, mercenary service constituted another "way of cementing alliances and establishing inter-state relationships."²⁸³ Therefore the cultural and political inter-connectivity driven by aristocratic and patron-client relationships, as well as mercenary service, was likely to have been a contributing factor to the development of western Mediterranean military *koine* during the fourth and third centuries.

4.3. *Syracusan Armies:*

The following section will isolate and examine the archaeological and literary evidence pertaining to soldiers that were frequently recorded as serving in Syracusan armies from the fifth century onwards. Its intention is to illustrate the prominent role that the Celts and central and southern Italians played in the development of the western Mediterranean military *koine* during this period.

²⁷⁹ (McKechie 1989) p.83

²⁸⁰ (Jackson 2006) p.41

²⁸¹ (Garlan 1975) p.100; (Trundle 2004) pp.5-9

²⁸² (Trundle 2004) p.163

²⁸³ (Trundle 2004) p.164

Although literary sources indicated that the Carthaginians relied largely upon the services of mercenaries to fight their wars, within these sources the Syracusans are recorded as utilizing mercenaries with a much greater frequency than Carthage. For example, Timoleon's army at the battle of Crimisus consisted of 4,000 mercenaries and only 3,000 citizens and Agathocles North African invasion force held 6,000 foreign mercenaries and 3,500 Syracusans (Diod. Sic. 20.11.1; Plut. *Tim.* 24.4-5). Dionysius I repeatedly hired mercenaries from across the Mediterranean, indeed Parke noted that mercenaries constituted between a quarter to a third of his 80,000 strong army in 397 (Diod. Sic. 14.44.1-2, 14.47.7, 14.58.1; 15.17.3).²⁸⁴ Dionysius II's reign utilized mercenaries with 3,000 Peloponnesian mercenaries serving him during Dion's siege of Syracuse and he was able to send 2,000 mercenaries of various nationalities to aid Sparta against Thebes (Diod. Sic. 15.70.1; Diod. Sic. 16.17.3; Xen. *Hell.* 7.1.20, 30). Dion overthrew Dionysius II with an initial force of around 1,000 Greek mercenaries (Diod. Sic. 16.9.5; Plut. *Dion* 22.8). Consequently, mercenaries appeared to have been utilized with a much greater frequency than Syracusan citizens.

The expansion of Syracuse under the tyrants of the late fourth and early third centuries was inexorably tied to the recruitment and subsequent settlement of foreign mercenaries. Between 405-284 Syracuse was ruled by thirteen tyrants, in addition to Timoleon, who, although he returned the city to democracy, was a tyrant in all but name.²⁸⁵ These tyrants were reliant upon a variety of Celtic, Greek, and Italic mercenaries to first seize and then maintain their power. Consequently, Syracusan armies during this period consisted of newly recruited foreign mercenaries and previously settled mercenaries together with Syracusan citizens, many of whom were former mercenaries.²⁸⁶

Between 488-285 Diodorus recorded eight instances where mercenaries were settled by Syracusan tyrants both in the city itself and in other Sicilian cities (Diod. Sic. 11.72-8; 11.49; 14.15; 14.58; 14.78-36; 14.96; 20.71).²⁸⁷ The tendency of tyrants to settle ethnically and culturally diverse mercenaries in Syracuse and other Sicilian cities probably contributed to the gradual development of a shared military *koine*. For example, an Oscan speaking

²⁸⁴ (Parke 1933) p.68; (Trundle 2004) p.6

²⁸⁵ (Finley 1979) p.97; (Oost 1976) p.224

²⁸⁶ (Zambon 2008) p.186

²⁸⁷ (Lomas 2006) pp.98-100 tlb.7.1

mercenary is unlikely to have abandoned his native weaponry and fighting style because he was now a citizen in Syracuse which had a large ethnically Greek population. Evidence illustrates that when Italic mercenaries either seized control of Sicilian cities, or peaceably settled within them, that neither culture completely disappeared, rather they existed alongside each other adopting and incorporating aspects of each other's cultures to create a multicultural community. In the fourth century the civic identity of many Sicilian cities underwent a transformation which was intended to physically signify the assimilation of the new mixed citizen population; new temples were built, street patterns were changed and in some cases new public areas were constructed.²⁸⁸

In Cumae, Entella and Messana the sources recorded that the Italic mercenaries either killed or enslaved the male populations of these largely Greek and Sicilian cities (Diod. Sic. 12.76.4; 14.9; 22.13.2; Polyb. 1.7-11; Livy 4.44.12; Strabo 6.2.3). One would have expected this to have coincided with a complete cultural overhaul, but epigraphic evidence reveals that Greek names, vase-ware, and culture remained in use. In Paestum both the Greeks and Lucanians preserved their particular burial forms and Greek sanctuaries and institutions such as the *bouleuterion* were also maintained.²⁸⁹ Messana had a long history of cultural diversity. Originally a Chalcidian colony (Zancle), in the fifth century its elites were overthrown by Samian mercenaries, who themselves were ousted by Doric Messenians who were settled by the Tyrant Anaxilas of Rhegium (Hdt. 6.24-6; Thuc. 6.4.6).²⁹⁰ Then in the fourth century Messana absorbed a number of Greek settlers before finally being subjected to a number of Campanian settlements in the city down to 285 (Diod. Sic. 14.78.3-6, 22.13.2; Polyb. 1.7-11; Strabo 6.2.3).

Epigraphic and funerary evidence from Messana further substantiates the presence of a diverse cultural society; a vase recovered from a chamber tomb at Via. C. Battisti was inscribed in Greek, naming an Oscan owner Pakia Pompeia.²⁹¹ Evidence has also been found in the Greek temple of Apollo, illustrating that a dedication was made on behalf of the community by magistrates who were recognised under the Oscan term *meddices*.²⁹² Furthermore, the names of these *meddices* were Oscan, but were written in Greek στενιο

²⁸⁸ (Lomas 2006) pp.110-11

²⁸⁹ (Pedley 1990) p.105; (Lomas 2006) pp.111-12

²⁹⁰ (Lomas 2006) p.112; (Tagliamonte 1994) p.196

²⁹¹ (Lomas 2006) p.113

²⁹² (Lomas 2006) p.114; (Vetter 1953) 197

καλινισ (Sthennius Calenius) and μαρασ πομπτιεσ (Maras Pontius).²⁹³ Additionally, a series of five tile stamps bearing the name Μαρμερτίων, in its Greek form, have been discovered among the cemeteries of Via. S.Cecilia, Via. S. Marta and Orto della Maddalena.²⁹⁴

The ability of both Greek and Oscan cultures to coexist, after the community was seized by Campanian mercenaries, was not isolated to Messina, or Sicily for that matter. When the Campani overran Campanian cities such as, Cumae, Capua, and Naples, it also appears that Greek “traditions survived with little outward change.”²⁹⁵ Indeed, in Naples the city seems to have retained its Greek political institutions, but like Messina, Oscan names eventually ascend to prominent political positions.²⁹⁶ This evidence suggests that rather than a complete cultural overhaul, elements of Greek and Italic culture co-existed side by side. Consequently, it is probable that this was also true of their martial identities.

The numerous instances of demographic reshuffling carried out by the Syracusan tyrants between the fifth and third centuries, together with the frequent and sometimes large scale importation of foreign mercenaries, likely to have contributed to the development of a hybrid military culture in Sicily. As previously discussed these mercenaries and settlers did not simply abandon aspects of their native cultures when they merged into the heterogeneous communities of eastern Sicily, rather they co-existed alongside the existing inhabitants. Therefore, when the citizens of these communities went to war alongside freshly arrived foreign mercenaries, it is probable that they found themselves fighting with similar equipment and with similar tactics. With this in mind the armies of Syracuse should not be viewed as anymore uniformly armed than the Carthaginian armies they frequently faced.

4.4. *Central and Southern Italians:*

During the late fourth and first half of the third century, the peoples of central and southern Italy played an important part in the demographic, military, and political development of

²⁹³ (Zambon 2008) pp.46-7

²⁹⁴ (Institute 2015) PH142463 = IG XIV 2394,2: Stamps A-F. The Packard Humanities Institute, Searchable Greek Inscriptions. <http://epigraphy.packhum.org/text/142463>. Accessed June 15 2015; (Lomas 2006) p.113

²⁹⁵ (Frederiksen 1984) p.139

²⁹⁶ (Frederiksen 1984) p.139

eastern Sicily. The most prominent of these Italic mercenaries were recorded as the Campani, who were not as their name suggests indigenous to the Campanian region of Italy, but were part of a larger Oscan speaking community. Oscan speaking Italians, had originally occupied the central and southern Apennines, but had gradually expanded outwards and by the end of the fourth century had established themselves across central and southern Italy, as well in north eastern Sicily.²⁹⁷ Although the Campani are the most frequently mentioned group of Italic mercenaries serving in Sicilian armies they are likely to have contained a mixture of Apuli, Bruttii, Frentani, Lucani, Marrucini, Marsi, Paeligni, Samnites, Sidicini, and Vestini, with whom as Oscan speakers, or Oscan related languages, they maintained a “significant cultural similarity,” and linguistic connection.²⁹⁸ Therefore, when the Campani are mentioned in the sources they are likely referring to a larger group of Oscan speaking central and southern Italians.

The frequency with which Campanian mercenaries are recorded seems to indicate that the Bay of Naples may have been a major mercenary marketplace, where mercenaries would gather from a range of regions to seek employment, similar to the Peloponnese. This makes it likely that some of these mercenaries referred to as Campani also included other Italic peoples and Greeks living in Italy. As previously discussed, evidence indicates that when these Oscan speaking mercenaries established themselves among the largely Greek speaking communities of Campania, it is possible that there were some Greek speakers serving amongst Oscan mercenaries. Therefore, when this thesis refers to the Campani, it will be referring to a mercenary body, largely constituted of Oscan speaking, Italic peoples, or those Sabellic speakers whose language was closely related to Oscan. However it should be recognised that these mercenary bands possibly held among its numbers Greeks, Etruscans, and Latins.²⁹⁹

Central and southern Italians are first recorded as serving in Sicily as mercenaries during the ill-fated Athenian campaign against Syracuse, where a group of Campani were recruited by the Chalcidians (Leontini and Naxos) of Sicily in order to reinforce the Athenian expedition in 414/13 (Diod. Sic. 13.44.2).³⁰⁰ Carthaginian envoys quickly followed suit and these

²⁹⁷ (Salmon 1967) pp.28-49

²⁹⁸ (Salmon 1967) p.33; (Zambon 2008) p.45

²⁹⁹ (Salmon 1967) p.33

³⁰⁰ (Frederiksen 1984) p.106

Campanian mercenaries entered the service of Carthage during their conflict with Dionysius I (Diod 13.44.2). In 406, Carthaginian envoys recruited more Campani, only to witness them switch their allegiance to the Syracusan tyrant after peace was concluded (Diod. Sic. 13.80.4; 14.8.5; 9.2). Diodorus further noted that the 1,200 Campani recruited by Dionysius were cavalry and it was these same mercenaries who having been paid and released from his service went onto seize the city of Entella (Diod. Sic.14.9.8-9).

In 404 Dionysius settled his mercenary forces in Syracuse as citizens which presumably included at least some Campani. A further band of Campani were subsequently settled at Catane and then later moved to Aetna (Diod. Sic. 14.7.5, .15.3, 58.2).³⁰¹ The Campani of 404 further affected the cities of Sicily, when a body of mercenaries, who had apparently not been settled or chose not to settle in Aetna, Catane, or Syracuse peacefully, asked for admission to Entella and then forcibly seized the town ((Diod. Sic. 14.9.8-9). This act would be repeated when another group of Campani seized the city of Messina in 288 (Diod. Sic. 22.13.2; Polyb. 1.7-11; Strabo. 6.2.3). This could represent both a very real fear, or a literary trope, as it is a recognizable reoccurring theme in the recorded history of the Campani, with similar events occurring with their seizure of Capua, Entella, and Rhegium when a Roman force seized control of the city under the command of Campanian named Decius Vibellius (Diod. Sic. 14.9.8-9; 22.1.2-3; Polyb. 1.7-8).³⁰² Moreover, the seizures of communities possibly demonstrates that the driving force behind mercenary service, aside from wealth, was the desire to own land and suggests that the prospect of returning home to central and southern Italy may have not have held the possibility of owning land. Regardless of their ambitions, the largely Oscan speaking Mamertines would then dominate the north-eastern corner of Sicily with a series of fortified garrisons until 264, and from this position prove a constant threat to Syracusan hegemony over the cities of north eastern Sicily.

It is fortunate that, although there is a relative lack of archaeological evidence pertaining to military equipment in eastern Sicily and Syracuse, the tombs of central and southern Italy such as Capua, Cumae, Nola (Campania), Paestum, (Lucania), and Lavello (Samnium) provide a wealth of evidence from which a conceivable picture of their military equipment can be constructed. The evidence of central and southern Italian warriors found in tombs can also

³⁰¹ (Frederiksen 1984)p. 143-4

³⁰² (Zambon 2008) p.104

be further reinforced by pottery finds. Central and southern Italy tomb and vase paintings largely depict infantry equipped with thrusting spears or javelins, together with a variety of swords being used as a secondary weapon. However, it should be noted these iconographic representations may at times reflect artistic conventions rather than local practices.

Physical and artistic evidence found in tombs and vases strongly suggest that the primary offensive weapons of the central and southern Italians were the javelin and thrusting spear. Images of javelins are clearly depicted in a scene from the 'Warriors Return' from Nola, where two warriors are equipped with two long thin javelins all four of which have the *amentum* clearly delineated (Plate 27).³⁰³ Further pictorial evidence can be seen in a series of partially preserved tomb paintings housed in the Naples museum which depict a warrior equipped with a *clipeus* being wounded by a javelin in his thigh, together with another warrior bearing a *clipeus*, Attic styled plumed helmet, bronze belt, and possibly a linen cuirass thrusting a spear overhand whilst around him are scattered two javelins both clearly showing their *amenta*.³⁰⁴ Tomb 7 from the Gaudo cemetery at Paestum shows two duelling warriors advancing on each other with thrusting spears, both of whom carry javelins lodged in their legs.³⁰⁵ Furthermore Tomb 53 at Andriuolo also illustrates two warriors advancing on each other with thrusting spears, whilst still holding two javelins (Plate 28).³⁰⁶ This evidence seemingly indicates that central and southern Italic warriors of all classes went into battle equipped with both javelins and spears.³⁰⁷ Finally a warrior wearing a crested helmet but no body armour and equipped with javelin and an oblong shield from the north side of Tomb 114, in the Andriuolo necropolis at Paestum is seen advancing between two lines of warriors holding thrusting spears crouching behind their *clipeus* (Plate 29).³⁰⁸ This scene may illustrate the initial phase of battle where the lightly armed troops skirmished ahead of the two lines of heavy infantry before they themselves entered the battle and it would certainly fit with Quesada Sanz's 'cloud' model of warfare.³⁰⁹

Physical examples of javelins discovered alongside the pictorial evidence in Campania and Paestum has provided a surer picture of the various types of javelins that the central and

³⁰³ (Burns 2006) p.376 WP48, WP48a; (Connolly 1981) p.107

³⁰⁴ (Connolly 1981) p.107

³⁰⁵ (Small 2000) p.228

³⁰⁶ (Burns 2006) p.371 WP2

³⁰⁷ (Small 2000) p.230

³⁰⁸ (Burns 2006) p.374 WP20; (Small 2000) p.229-30

³⁰⁹ (Quesada Sanz 2006) p.251,258, 263

southern Italians fought with. The most common javelin types were constructed of thin iron shanks designed with either a square shank with a small pyramidal head which begins to appear from the late fifth century, or a circular shank with a long thin tapering point akin to the medieval bodkin arrow which is dated from the mid- fourth century.³¹⁰ These javelins bear remarkably similarities to the Celtiberian and Iberian *falarica* as well as the Celtic and Italic javelins at Montefortino and Monte Bibele. Examples of the square shanked pyramidal headed javelin ranging in length from 21-42cm have been discovered in graves from Eboli, Paestum (Tomb 2/1957), Pescara, and Pontecagnano, whilst the 'bodkin' type has been discovered at Carife (Tomb 9), San Prisco at Capua (Tomb 16), and Paestum and ranges between 41-42 cm.³¹¹ These javelins are characteristic of Italic light javelins in that their shanks are on average up to "four times the length of the head."³¹² These physical examples seem to corroborate Polybius' later description of the javelin used by Roman *velites*; he describes these as being around three feet in length and a finger's breadth in diameter (Polyb. 6.22).

The pyramidal javelin heads discovered at Paestum and Pontecagnano physically taper to a very thin point about two-thirds of the way down the shank towards the head then flare out. This could potentially have created a weak point causing them to bend upon impact, but this feature was a by-product of the primary objective of the design which was to pierce armour.³¹³ This design which is replicated on later Roman *pila* seems to corroborate Polybius' description that the second century Roman *pilum* bent upon impact making them difficult to extract (Polyb. 6.22).

The presence of the bodkin styled heads without the added weight at the head may have carried more penetrative power, but were less likely to bend upon impact. Alternatively they may represent a period of experimentation in javelin design between the fifth to fourth centuries that eventually concluded that the pyramidal headed javelin was more effective and harder to remove than the 'bodkin' styled javelin. The possibility that the pyramidal headed javelin bent upon impact, may also explain why the warriors illustrated on the walls

³¹⁰ (Burns 2006) p.184

³¹¹ (Burns 2006) p. 183, 184, 277, 278, 279, 353 JS39, 354 JS83 JS88, 355 JS22, 356 JS39 357 JS99, JS100; (Cipriani 1990) p.135 T37, T40; (Connolly 1981) P.109; (Serritella 1995) p. 65 T4036; 17 and 102 T4435.7; 27 T5755; (Small 2000) P.224

³¹² (Burns 2006) p.181

³¹³ (Small 2000) p.224

of tomb 7 at Gaudo are continuing to fight with the javelins still embedded in their legs.³¹⁴ The image of two warriors continuing to fight with javelins still embedded in their legs occurs on a number of vases and always as a duel rather than part of a larger battle.³¹⁵

Interestingly the javelins found at Eboli are occasionally found with heavy armour whilst those found at Paestum and Pontecagnano are found alongside heavier spears, although they are the less common weapon. This suggests that like other contemporary warriors in the western Mediterranean, javelins could be utilized by heavy and light infantry, and corroborates the pictorial evidence of heavily armed warriors equipped with javelins from the Naples museum.³¹⁶

Artistic evidence, in conjunction with physical examples indicates that the dual-purpose spear (*hasta*) was light enough to be thrown, but sturdy enough to be used in a thrusting motion existed as a popular alternative to the specialised javelin or thrusting spear and in fact may have been the standard offensive weapon. Artistically, the dual-purpose spear is often depicted in pairs and this may reflect that they were popular because they allowed the soldier to launch one of his spears, whilst retaining the other which remained suitable for use in the continuation of skirmishing, or in close combat.³¹⁷ Physical finds of the dual-purpose spearheads are somewhat harder to distinguish as they resemble the thrusting spearhead. The dual-purpose spears are usually characterized by their lack of *sauroter* and the design of the spearhead itself which featured a low-shouldered tapering head resembling an elongated leaf shape and range from 45-60cm in length and 2.5-6cm in width.³¹⁸ The length of this weapon would have enabled the bearer to inflict a deep penetrative wound to his enemy, in either a throwing or thrusting capacity, in addition to the increased opportunity for cutting along both edges of the blade.³¹⁹ Due to the style of warfare that was developing in the fourth century in which heavy and light infantry alike were able to fight with both javelin and spear, the dual-purpose spear would have offered a versatile alternative to the specialization of the javelin and the spear.

³¹⁴ (Small 2000) p.228

³¹⁵ (Schneider-Herrmann 1996) Pl. 52, 101,127,

³¹⁶ (Small 2000) p.225

³¹⁷ (Schneider-Herrmann 1996) Pl. 17,30,61,112, 156, 163

³¹⁸ (Burns 2006) p.181, 353 fig. 2,4, 355 fig. JS23, JS24, JS31, JS32, 356 fig. JS42, JS45

³¹⁹ (Burns 2006) p.181

In central and southern Italy, the spear is the most common offensive weapon throughout the Late Iron Age.³²⁰ The shape and size of the Italic thrusting spear has been shown to closely resemble the Greek *doru* in that it was on average 1.8-3 metres in length with an iron head that ranged from 15-30cm long and 2.5-4cm in width together with a *sauroter*.³²¹ Physical examples of spearheads are well attested in central and southern Italy particularly in Pescara, Paestum, and Lavello although at times they are difficult to precisely distinguish from the variety of dual-purpose and javelin heads.³²²

Two dominant sword types seem to have been utilized by central and southern Italian warriors during the fourth-third centuries, the double-bladed antennae typed thrusting sword with an average length 30-46cm and the *machaira* a longer Italic counterpart of the *falcata* the blade of which could reach 77cm or more.³²³ The archaeological scarcity of swords in central and southern Italy illustrates several important points; first that the sword served as a secondary weapon to the central and southern Italians who seem to have preferred the javelin and spear. The preference for the javelin and spear also indicates that the Italic style of warfare was at least partly ranged and therefore was likely to have been less orderly than the traditional Greek phalanx. The presence of such a large percentage of physical spearheads in the archaeological record may indicate that the sign of an Italic warrior was embodied by the spear, or javelin, rather than the sword. Furthermore, swords were likely expensive items that were not commonly used by all sections of society. This expense may also have resulted in the sword being too valuable to remove from functional service and therefore may have seen it recycled for use by surviving members of the family.

The defensive equipment of the central and southern Italians seems to conform to the two dominant shield types in the western Mediterranean; the circular *clipeus* and the oblong shield. The central and southern Italian and Paestum tomb paintings crucially provide a rough time frame of the “development of shield types in southern Italy.”³²⁴ These tomb paintings reveal that the *clipeus* is the most popularly illustrated shield between the “late

³²⁰ (Small 2000) p.221

³²¹ (Burns 2006) p.182; (Connolly 1981) p.109; (Matthew 2009) p.400

³²² (Burns 2006) p.182, 191, 356 JS38 JS46; (Small 2000) p.221

³²³ (Burns 2006) p.192, 194; 358 SA2; (Connolly 1981) p.109; (Quesada Sanz 2011b) p.50

³²⁴ (Burns 2006) p.161

fifth to the last quarter of the third centuries.”³²⁵ Whereas the central and southern Italian cities of Capua and Nola witness the appearance of the oblong shield from the last third of the fourth century, and the shield begins to appear in the tombs of Paestum and vase-ware from the dawn of the third century.³²⁶ This distinct timeline, defining the long lived popularity of the *clipeus* together with the gradual spread of the oblong shield, indicates that by the late fourth century the javelin was developing into the primary weapon of the central and southern Italians. Furthermore, it appears that by the end of the third century the oblong shield had largely replaced the *clipeus*, which offered far less protection against javelins than its full body counterpart. The dominance of the *clipeus* in the iconographic evidence may reflect its expense, which made it a symbol of wealth and social standing and was therefore a sought after image by the wealthier sections of society. Furthermore, the *clipeus* is often shown artistically as the shield of choice for duelling warriors, and often appears in scenes that could be interpreted as having mythological connotations, which further strengthens the appeal of the *clipeus* to the wealthier classes whom sought to attach themselves to these themes.³²⁷

The growth in popularity of the oblong shield also potentially illustrates that warfare in Italy was becoming increasingly mobile. The central iron boss and horizontal grip of the oblong shield also potentially represents a shift towards mobile, missile orientated warfare. The iron boss allowed the warrior to punch his shield out from himself both offensively and defensively. Offensively, the iron boss could be used like an iron fist to knock the opponent off balance, whilst defensively it could be manoeuvred easily to take the brunt of an opponent’s blow thanks to the horizontal grip. The horizontal grip also provided additional benefits over the *porpax* and *antilabe* of the *clipeus* it allowed the shield to be easily extended out from the body, a manoeuvre which allowed the warrior to punch away, or deflect blows, in addition to further extending distance between the shield and its bearer. This additional distance may have resulted in the development of longer shanked javelins, which were required to penetrate further through the shield in order to wound the warrior behind it.

³²⁵ (Burns 2006) p.161, 352 fig.1,3, 358 fig.1, 359 fig.5, 369 fig. 1-3, 5, 6, 9, 371 WP1-3, 373 WP7,14, 376 WP3; (Schneider-Herrmann 1996) p.65, Pl.17-22, 27, 28a-b, 51-52, 108-110, 117-120

³²⁶ (Burns 2006) p.161, 374 fig WP20, 377 WP50; (Schneider-Herrmann 1996) p.66, Pl. 105, 131, 133, 149

³²⁷ (Schneider-Herrmann 1996) Pl. 30,51, 52, 66, 68,101, 103, 109,110,121-23, 126

There were a variety of helmets worn throughout central and southern Italy between the fourth-third centuries. It appears that after 390, the most popular of these helmets were the Italo-Corinthian and Samno-Attic.³²⁸ The Italo-Corinthian helmet originally emerged in the Italian peninsula sometime during the sixth century as a “clear development of the Greek form” where it continued in use until the end of the fourth century.³²⁹ Constructed of bronze, the Italo-Corinthian helmet was equipped with set rigid cheek guards that almost fully enclosed the face with narrow eye holes and a descending strip of bronze that covered the nose. It was in essence a full faced helmet that severely restricted the wearer’s ability to see and hear.³³⁰ The Italo-Corinthian helmet is better represented in the Etruria and Latium however, the large Greek influence in the cities of central and southern Italians and Tarentum makes it possible that it was in use in these regions.

By far the most popularly depicted helmet in central and southern Italy was the Samno-Attic helmet which appears on all three of the warriors in the ‘Warriors Return’ fresco in Paestum, a bronze ‘Samnite Warrior’ figurine in the Louvre and features frequently on central and southern Italic vase-ware (Plates 7, 27).³³¹ Physically the Samno-Attic helmet has been discovered in tombs from Cumae and Paestum, in addition to 31 examples that date to the fourth century distributed across central and southern Italy.³³² The Samno-Attic helmet seems to present an example of a direct modification of the Greek Chalkidian without the nose-guard and it featured a low close fitted bowl with a conspicuous ridge together with a closely fitted neck-guard and hinged cheek pieces (*bucculae*).³³³ In many ways it is similar to the Celtic Montefortino and Etrusco-Thracian helmets, the main exception being the size and extension of the neck-guard. The top of some Samno-Attic helmet are equipped with either a singular, or pair of sockets which presumably were used to hold a crest (*crista*) or *aigrettes*. The popularity of the Samno-Attic helmet in central and southern Italy with its similarities to the Montefortino and Etrusco-Thracian helmets is possibly representative of a wider trend towards armour that facilitated flexible javelin orientated warfare. The hinged *bucculae* had the added benefit of being able to be tied up providing the predominantly

³²⁸(Connolly 1981); (Paddock 1993) p. 320-21, 470

³²⁹ (Paddock 1993) p.78

³³⁰ (Burns 2003) p.68; (Connolly 1981) p.61 fig.13, 110 fig.5; (Schneider-Herrmann 1996) Pl. 27,40,64a, 114; (Snodgrass 1967) pp.51-58

³³¹ (Paddock 1993) p.406, 749; (Schneider-Herrmann 1996) Pl. 3, 5, 9, 16, 20, 22, 23, 46, 67, 68, 151

³³² (Connolly 1981) p.105,107-110; (Paddock 1993) p.400, 402 fig.107, 410 fig.109, pp.413-414 tbl.3, 415 fig.110, 4 18 fig. 111

³³³(Connolly 1981) p.111; (Paddock 1993) p.401

javelin armed skirmisher with the attractive advantages of increased visibility and awareness. The *bucculae* could then if the situation warranted it, be tied down giving the warrior extra protection in close combat.

There are also physical examples of simple conical 'jockey-cap' helmets akin to the Greek *pilos* and Etruscan Negau helmet which are devoid of *bucculae*, or neck-guards, an example of which can be seen on a *skyphos* now in Brussels.³³⁴ These helmets are rarer in the archaeological and iconographic record, but this may be the result of them being a cheaper helmet that was popular among the poorer sections of society and thus not deposited or depicted in the wares and tombs of the wealthy. It was not always financially practical for military equipment to be buried and thus taken out of circulation so it is possible that if the *pilos* type helmets were worn by the poorer citizens, then may potentially explain why they are less well documented.

Archaeological evidence from across southern Italy indicates that body armour of the central and southern Italians conforms to three major categories; bronze disc-shaped cuirasses and Greek, and Italic anatomical cuirasses, together with the *linothorax*. A leather belt covered with bronze is present in practically every depiction of central and southern Italian and southern Italic warriors; these belts were 7-12cm in width, 70-110 cm long and a thickness of between 0.5-1.5mm.³³⁵ Additionally the appearance of elaborate decorations on some belts seems to indicate that they held important cultural significance to the central and southern Italians; belts are occasionally depicted as the only body armour worn by some soldiers and are frequently depicted as a trophy in tomb paintings and vase-ware.³³⁶

The single disc, or plate (*cardiophylax*), and the triple disc (*spongia*) cuirasses are widely represented artistically and physically in the archaeological record (Plates 15-18). The *cardiophylax* seems to have been the earliest model of the two types. The *cardiophylax* could be in the form of either a bronze disc or rectangle averaging between 20-25cm that was suspended over the shoulder by either a simple single, or a number of hinged leather straps which were reinforced by iron hinges and trimmings and were mirrored on the back

³³⁴ (Connolly 1981) p.110 fig.4; (Paddock 1993) pp.366-367; (Schneider-Herrmann 1996) Pl. 13,69,122,123, 124

³³⁵ (Burns 2006) p.132;(Connolly 1981) p.109; (Schneider-Herrmann 1996) Pl.44a, 45; (Salmon 1967) p.109

³³⁶ (Burns 2006) p. 131, 334 fig. 1, 3-5, 335 fig.2-5; (Connolly 1981) pp.108-110; (Schneider-Herrmann 1996) Pl. 11, 17-25, 47,39,50,67,101,105-106, 113, 116, 118 (Salmon 1967) p.109

by an identically shaped counterpart.³³⁷ The Capestrano warrior provides the clearest example of how complex this suspension system *could* be (Plate 17).³³⁸ The leather straps of the *cardiophylax* seems to have undergone a further transformation by the fourth century, in which the leather straps are replaced by bronze straps and eventually shoulder plates which can be seen on a Lucanian krater now in Vienna.³³⁹ There seems to be a clear line of development between with the earliest models of the *cardiophylax* originating in the sixth-fifth centuries and becoming “increasingly rare” in artistic depictions by the fourth century, as the *spongia* began to supersede it from the fifth century onwards.³⁴⁰

Although the three discs of the *spongia* provided a larger area of protection for the warrior its harness system was less complicated than its predecessor. The main reason for this development is that, despite it being described as having three discs, they are actually embossed shapes joined together as one triangular bronze plate that tapered downward from the shoulders towards the navel. This allowed a less complicated hinge system, which consisted of four reasonably thick bronze straps, two extending over the shoulders and two wrapping around the torso from underneath the arm pits.³⁴¹ Nine examples of the *spongia* have been discovered Paestum and importantly on the ‘Samnite Warrior’ statuette that was found in Sicily and can be seen on a number of Central and southern Italian vases.³⁴²

The numerous physical examples and artistic depictions of the *cardiophylax* and the *spongia* likely indicate that the central and southern Italians were fighting a highly mobile, missile dominated method of warfare that could descend into melee combat if necessary.

Therefore, the development of the *cardiophylax* and *spongia* provide tangible evidence that they were seeking a flexible and light form of armour that facilitated rather than hindered their ability to utilize their javelins, whilst still providing adequate protection in close quarter combat. A soldier fighting at close quarter against enemies equipped with heavier Greek and Italian anatomical cuirasses would have had considerably more upper body flexibility and manoeuvrability. The advantages of the *cardiophylax* and *spongia* were in their ease of repair, since if the discs became badly damaged they could be simply disconnected and

³³⁷ (Burns 2006) p.58, (Connolly 1981) p.101; (Salmon 1967) p.109; (Schneider-Herrmann 1996) p.46-49, Pl.22,23, 67, 72-75, 85a-b

³³⁸ (Connolly 1981) pp.101 fig.13-14

³³⁹ (Burns 2006) p.59; (Trendall 1983) pl.413

³⁴⁰ (Burns 2006) p.59

³⁴¹ (Salmon 1967) p.109

³⁴² (Burns 2006) p.295 T4, 300 T23 T24, 305 T44; (Connolly 1981) p.108, 110 (Salmon 1967) p.109,

exchanged with a newly constructed one, whereas the Greek and Italian bronze cuirasses would have required considerably more skill to repair. Furthermore, the highly decorated *spongia* discovered at Ksour-es-Sad (Tunisia) is “undoubtedly of southern Italic manufacture,” which illustrates that between the fifth-third centuries, military technology in the western Mediterranean was subject to a high level of interconnectivity and that a large part of this was due to the movement of Italic mercenaries.³⁴³

Two types of anatomical cuirasses are also attested in central and southern Italy, the Greek muscled cuirass and the shorter Italic anatomical cuirass, both of which were composed of a solid bronze breast and back-plates (Plates 19-20). The differences between the two cuirasses can be roughly separated into two dominant features. Firstly the Italic cuirass is generally shorter measuring 29.5-37cm in height and 25-30cm in width extending down to just above or below the navel. This is probably a consequence of the importance of the Italic belt which served to protect the stomach and provided the wearer with greater flexibility. It is important to note that whilst the Italic cuirass was generally shorter than its Greek counterpart, there are examples that show that the Greek cuirass could be produced in a longer form 42-53 cm high and 31.2-42.7cm wide, as well as a shorter version measuring 35-44cm in height and 33-37 cm in width.³⁴⁴ The shorter version of the Greek cuirass might have been an attempt to tailor it to an Italian market which preferred the belt as a lower protection. The second difference is how the cuirasses were fastened. The Greek styled cuirass was fastened together directly at the shoulder and waist by a variety of hinges and rings.³⁴⁵ Examples of the Greek cuirass are rare in representational sources when compared to the frequency that the Italic cuirass or the *spongia* appear.³⁴⁶ Alternatively the Italic cuirass was connected at the shoulder and torso by bronze straps similar to those that held the *spongia* in place in addition to the armour worn by two warriors on the ‘Warriors Return’ tomb from Nola and the restored panoply from Cumae now in the Royal Armouries at Leeds.³⁴⁷

³⁴³ (Connolly 1981) p.111

³⁴⁴ (Burns 2006) p.84, 94

³⁴⁵ Burns 2006) p.83, 86, 88, 307-311

³⁴⁶ (Burns 2006) p.91

³⁴⁷ (Burns 2006) p. 94, 315-319; (Connolly 1981) p. 105, 108;

The *linothorax* is less well represented in the iconographic evidence from central and southern Italy than the previously discussed variety of metallic cuirasses.³⁴⁸ However, there are instances where it is discernible, for instance the bronze statue of Mars of Todi wears a plated *linothorax* and it can also be seen on a small number of tomb-paintings and vases.³⁴⁹ The apparent artistic unpopularity of the *linothorax* may reflect that metallic cuirasses were more expensive, and thus potentially were given a greater amount of prestige that was may have appealed to those wealthy enough to commission tomb-paintings and purchase vase-ware. Livy describes the *linothorax* as being worn by the Samnites, although his description of the Linen Legion is fanciful, it does possibly illustrate how later Romans perceived the *linothorax* as being of central and southern Italic provenance (Livy 9.40.1-4).

The evidence from the central Apennines and southern Italy suggests that there was a wide variety of influences on body armour from the fifth to third centuries. These influences are reflective of the larger Mediterranean wide trend towards more flexible, lighter, less restrictive armour that facilitated manoeuvrability and speed without impeding the wearers' upper body to the point that they were unable to effectively launch javelins.³⁵⁰ Furthermore the body armour portrays the image that warfare in central and southern Italy, primarily consisted of a small number of heavily armed soldiers, fighting alongside a large number of lighter armed troops all of whom were able to fight as javelin wielding skirmishers.

4.5. Celts:

The Celts potentially played a pivotal role in the development of the western Mediterranean military *koine*. This can be most clearly seen in the dispersal of military equipment that was either of Celtic provenances, or was spread by their interaction with contemporary western Mediterranean peoples. For example, the spread of the Montefortino helmet, heavy shanked javelin, and the oblong shield to the Celtiberians, Italians, and North Africans can all be plausibly argued to have originated in some way or another as a result of their interaction with the Celts.

³⁴⁸ (Burns 2006) p.104

³⁴⁹ (Burns 2006) p.103, 374 WP20a, WP22, 377 WP50; (Schneider-Herrmann 1996) p.49, Pl. 5, 33, 51

³⁵⁰ (Hannah 1990) p.272

Celtic mercenaries were recorded as serving Agathocles, Dionysius I, and Dionysius II, and Pyrrhus between 385-275 in Africa, Italy, Greece, and Sicily and although they are not mentioned in the service of Timoleon, or other Sicilian tyrants, it is highly probable that they were found in their service (Diod. Sic. 15.70.1, 20.11.1, 64.2, 22.12.1; Plut. *Pyrrh.* 26.1, 30.1, 32.1-2; Xen. *Hell.* 7.1.20, 31).³⁵¹ The archaeological evidence pertaining to Celtic military equipment is at times largely corroborated by the literary descriptions of Celtic warriors (Diod. Sic. 5.30; Polyb. 2.28-31; Plut. *Cam.* 40.1-3). These descriptions seemingly correspond to the large periods of time between La Tène I (400-285) and La Tène II (285-100) in which developments in military technology can be discerned.³⁵²

Livy implies that Dionysius I was in some part responsible for the Celtic sack of Rome in 390 (Livy 7.23.15). This implication may have been derived from the fact that in 389/8 Dionysius had looked to extend his hegemony over northern Italy by founding colonies on the Adriatic coast in addition to owning a stud farm in *cispadana* which was occupied by the Veneti tribe, as well as launching a campaign in southern Italy that saw Croton, Rhegium, and Thurii, captured (Diod. Sic. 14.106.1-3, 15.13-14).³⁵³ The Syracusan relationship with the Celts of the Po valley continued under Dionysius II who sent a force 2,000 strong that included Celtic mercenaries in aid to Sparta (Diod. Sic. 15.70.1; Xen. *Hell.* 7.1.20, 30). It is very likely, that in keeping with Dionysius I and his son's tendencies to grant citizenship to their mercenaries, this included Celtic warriors, although no direct evidence of this has been found.

Diodorus and Polybius both describe the Celts as fighting primarily with a long sword however; archaeological evidence has shown his account to be mistaken on a number of levels (Diod. Sic. 5.30; Polyb. 2.28-31). The majority of Celtic swords recovered from La Tène during the period 400-250 were constructed with double sided pointed blades suitable for cutting and thrusting and measuring 55-65 cm in length which is of a similar length to the Celtiberian, Iberian, Italic, and Greek antennae types for the same period.³⁵⁴ The longer bladed Celtic slashing sword with a rounded edge did not come into widespread existence until the La Tène II period (c.250/225-100) and finds from La Tène illustrate that the blades

³⁵¹ (Bridgman 2003) p.49; (Cunliffe 1997) p.76; (Ellis 1997) p.52, 63; (Hornblower 1998) p.243

³⁵² (Hubert 2006) p.128

³⁵³ (Bridgman 2003) pp.48-9; (Purcell 1994) p.387

³⁵⁴ (Connolly 1981) pp.115-16; (De Navarro 1972) Pl.1-3; (Hubert 2006) pp88-89

continued to increase in length during the La Tène II period to as much as 72.7cm, or more.³⁵⁵ Therefore, the swords described by Diodorus and Polybius are likely the Celtic swords of their period and anachronistically applied as the weapon used by Celtic warriors in earlier periods (Diod. Sic. 5.30.3; Polyb. 2.28-31).

Polybius' description of the Celtic defeat at the battle of Telamon in 225 was possibly based upon the account of Fabius Pictor, who is recorded as being present at the battle (Eutrop. 3.5; Polyb. 2.27-32; Oros. 4.13.6).³⁵⁶ Polybius noted that the Celts were unable to utilize their long swords, as the Roman javelins wrought carnage on them before they could come within range (Polyb.2.30-31). The *gaesatae* are mentioned as being present at Telamon, which indicates that there were specialist spearmen in the Celtic ranks and the presence of the long swords (if they were utilized) may reflect the realization of a developmental trend towards long swords that had begun in the La Tène II period. However, the intention of this thesis is to focus on the period before the First Punic War, so whilst Polybius' account may be accurate for the later third century it may not be so during the La Tène I and the early years of La Tène II period where the dominance of the spear, javelin, and short sword is well attested.

Like their western Mediterranean contemporaries, the primary Celtic weapons seem to have been the thrusting spear and the javelin (Strabo. 4.4.119-20). In fact it is clear that the spear is the most common Celtic weapon in the Late Iron Age.³⁵⁷ Archaeological finds of Celtic spearheads discovered from La Tène in Switzerland present a variety of forms ranging from elongated and broad short leaf-shapes to flame shaped blades measuring as long as 45-60 cm and suggest that in overall length the Celtic spear conformed to the standard western Mediterranean length of between 2-2.5m.³⁵⁸

Polybius mistakenly referred to the *gaesatae* as a tribe of Celts living in Alpine regions of the Rhône (Polyb. 2.22). *Gaesatae* is derived from the Latin stem word *gaesum* (a heavy spear/javelin) and modern studies have concluded that the term *gaesatae* was used to

³⁵⁵ (Connolly 1981) p.116; (De Navarro 1972) p.387 fig.51 1a-b, Pl.13, 20, 23, 29, 42; (Hubert 2006) p.89

³⁵⁶ (Bispham. E.H. & Cornell 2013a) p.33

³⁵⁷ (Allen 2007) p.33; (Small 2000) p.226

³⁵⁸ (Allen 2007) p.126; (Allen 2001) p.60; (Connolly 1981) pp.117-18 fig. 25-36; (Cunliffe 1997) p.94 fig.64; (De Navarro 1972) Pl. 97, 111, 117

describe a band of spear armed mercenaries not a tribe as Polybius recorded.³⁵⁹ If the *gaesatae* were a band of mercenary Celtic spearmen, then like the Celtic cavalry described by Xenophon they fought with similar weapons to their Mediterranean contemporaries to the south and as such would have been easily incorporated into Italic, Greek and Carthaginian armies (Xen. *Hell.* 7.1.20). Furthermore, if Celtic mercenaries were recruited as spearmen, it strengthens the argument against the literary descriptions that depict Celts fighting primarily as swordsmen.

The Celts developed a shanked socketed javelin that tended to be heavier than its southern Italic counterparts, which shares common characteristics with the later Roman *pilum* and the *falarica* from the Spanish peninsula.³⁶⁰ Examples from Montefortino and Monte Biele illustrate that pyramidal javelin heads with long shanks have also been found in the Celtic cemetery of Montefortino.³⁶¹ This potentially illustrates that the increased Celtic military interaction with the peoples of the Italian and Spanish peninsulas from the fifth century onwards led to them adopting a shanked javelin. However, a bronze shanked javelin has been dated to the eighth century from Marino in Latium, so it is unclear whether the Celts had developmental primacy.³⁶² The ‘bodkin’ headed javelin that appears in Italy, does not seem to have reached the same level of popularity among the Celts, who whilst their javelin heads varied widely in shape and size they tend to be elongated version of the small pyramidal head found in Italy, or a peculiar flame shaped head which, Diodorus describes as being designed to break along its length in order to inflict not only cut, but also to tear at the wound (Diod. Sic. 5.304).³⁶³

During the La Tène I and II periods in a similar parallel to the Celtiberians, and Iberians, Celtic body armour appears to have been relatively rare, with the Montefortino helmet and oblong shield being preferred. Furthermore, archaeological and iconographic evidence suggest that whilst the shield was common among warriors that the helmet was much less prevalent. For example, a sculpture from the arch at Orange in southern France portrays a procession of cavalry and infantry in which the all of the cavalry and only one infantryman

³⁵⁹ (Cunliffe 1997) p.99; (Ellis 1990) p.35; (Ellis 1997) p.42

³⁶⁰ (Connolly 1981) p.118;

³⁶¹ (Brizio 1899) pl. IX fig.17-19; (Lejars 2008) pp.127-128, 140-142, 146-147, 167-157 fig. 5A, 6,9; (Small 2000) p.226; (Tomczak 2012) p.56 fig.9, 57 fig.10

³⁶² (Connolly 1981) p.92 fig.14

³⁶³ (Allen 2007) p.126; (Connolly 1981) p.117 fig. 46, 47; (Cunliffe 1997) p.94 fig.64

who is without a shield are equipped with helmets, whilst the remaining infantry all carry shields and spears but no helmets.³⁶⁴ This may reflect that helmets were primarily worn by aristocrats, whilst the bulk of the infantry fought without them.

Diodorus describes the Celtic helmet as being constructed of bronze with sizable embossed figures extending out from them in the shape of animals and horns (Diod. Sic. 5.30.2). Although these helmets have been confirmed by archaeological finds, such as the horned helmet in the Thames Museum, the majority of Celtic helmets do not conform to this style.³⁶⁵ The most dominant helmet of Celtic origin was the Montefortino helmet which has been archaeologically dated to the fifth century where it first appears with a crested knob in the tombs of central European Chieftains.³⁶⁶ It consisted of a rounded conical bowl with a crested knob, that had its rear rim drawn out to form a protruding neck guard, together with hinged cheek pieces that could be tied up on the sides of the helmet when not required (Plates 9, 30).³⁶⁷ Therefore the Montefortino helmet shares common characteristics with the Etrusco-Thracian helmet (discussed in detail in the following chapter) and the Samno-Attic. The similarities that the Montefortino shared with these helmets suggests that there was a common style of warfare developing in which Celtic and Italic warriors were seeking to protect themselves with helmets fitted with flexible cheek pieces (*bucculae*) which maintained a high degree of peripheral vision and could also be effective in melee combat if necessary. Presumably, this also suggests that Celtic and Italic warriors were facing similar threats. Thus, when viewed in conjunction with the dominance of dual-purpose spears, and javelins, these helmets appear to address the concerns of warriors who were participating in flexible missile orientated skirmishes where threats could come from all angles and in which melee encounters remained a possibility.

The appearance of the Montefortino helmet in Italy coincides with the Celtic incursions at the end of the fifth century, where it first appears in the graves of Montefortino (Ancona), before spreading southwards to become the most common form of Italic helmet hereafter and later it became the standard issue infantry helmet of the Roman army until the first

³⁶⁴ (Connolly 1981) p.114 fig.1

³⁶⁵ (Brizio 1899) pl. IX fig.15; (Connolly 1981) p.121 -122 fig.5,6,9,18

³⁶⁶ (Paddock 1993)p.482; (Stary 1979) p.198

³⁶⁷ (Bishop 2006) pp.65-66; (Connolly 1981) p.100 fig.1,4, 121 fig.8,9; (Paddock 1993) p.470, 472 fig.123, 489 fig.126; (Stary 1979) pl.25

century A.D.³⁶⁸ The Montefortino helmet has also been found in the graves of Iberian mercenaries that presumably were in Carthaginian service, as well as on the Braganza brooch found in a Celtiberian context.³⁶⁹ Furthermore, it also appears on a depiction of the Carthaginian war-god Adad.³⁷⁰ Consequently the increasing interaction of Celtic and Italic warriors within and against Carthaginian, Roman, and Syracusan armies likely facilitated the rapid adoption of the Montefortino helmet across the western Mediterranean by the end of the third century.

Shields recovered from the Montefortino cemetery and the lake at La Tène illustrate that Celtic shields were oblong shields with a horizontal handgrip and a variety of iron bosses ranging from circular, to trapezoidal.³⁷¹ The shields recovered from La Tène were 1.1m high and 1.2 cm thick, and are of similar dimensions to the Celtic mercenary oblong shield from Kasir al-Harit.³⁷² The oblong shield also appears on the Braganza brooch and it shares remarkable similarities with examples from the La Tène deposits as well as examples from southern France and the Italian peninsula (Plate 31).³⁷³ This likely suggests that the oblong shields appearance in Celtiberia was connected with the Celts, with whom they shared ethnic and cultural ties.³⁷⁴ Furthermore, the Celtiberian geographical proximity to the Iberians may also have led to the oblong shield, Montefortino helmet, and shanked javelin being transmitted to them through this interaction. Thus the spread of the Montefortino helmet when viewed in conjunction with the spread of the shanked javelin and oblong shield in Italy and the Spanish peninsula, illustrates that the Celts played a pivotal part in the development of the western Mediterranean military *koine*

Celtic battlefield tactics are traditionally thought to have consisted of a single massed charge, which quickly disintegrated into a series of furious individual combats. During the fourth-third centuries, as previously discussed the Celts fought primarily as spearmen, not as wild slashing swordsmen. This carries important implications regarding their fighting methods

³⁶⁸(Campbell 2013) p.429; (Connolly 1981) p.99; (Bishop 2006) p.65; (Goldsworthy 2001) p.47; (Paddock 1993) pp.469-470

³⁶⁹(Salimbeti 2014) p.40

³⁷⁰(Connolly 1981) p.96 fig. 1-3, 103 fig.12-13, 114, 118 fig.1-4 (Cunliffe 1997) p.93; (Quesada Sanz 2011a) pp.138-143; (Stary 1979) p.187, 198-200, Pl.26

³⁷¹(Connolly 1981) pp.118-120 fig. 1-17; (Cunliffe 1997) p.p.96-97; (Hubert 2006) pp.92-93

³⁷²(Bishop 2006) p.61; (Connolly 1981) p.119

³⁷³(Connolly 1981) p.118 fig.3-4; (Cunliffe 1997) p.93; (Quesada Sanz 2011a) p.137, 140, 151-152; (Quesada Sanz 2011c) pp.215-216, 221-225

³⁷⁴(Cunliffe 1997) pp.141-145; (Ellis 1990) pp.44-46; (Koch 2006) pp.364-365

and formations. Complex Celtic unit formations and tactics seemingly did not exist and it appears increasingly likely that they were fighting in the same 'cloud' type units as their western Mediterranean contemporaries. As previously discussed this conjecture is further strengthened by the adoption of Celtic military equipment throughout the western Mediterranean.

Whilst there is no evidence that suggests that the Celts ever adhered to a rigid phalanx system, they are not alone in this; the Iberians and some Libyan tribes also fought as spearmen without body armour and helmets. Therefore it is conceivable that the Celts did not fight in a manner that was different to that of their tribal contemporaries in the western Mediterranean. If the Iberians and Italians fought in flexible 'cloud' formations that allowed for the constant use of javelin armed troops surging forth from a base of more heavily armed spearmen, then the archaeological evidence pertaining to the Celts suggests that they also fought in a similar formation. Furthermore, the tribal social structure of the Celtic tribes was similar to that of the Iberians, in which the status of the aristocracy was in a large part defined by how many clients and retainers they were able to command.³⁷⁵ These clients and retainers would then have presumably provided warriors to the greater war band. The tribal ties within the mercenary bands make it probable that when the Celts served foreign paymasters they were commanded by a Celt. For example, the 4,000 Celtic cavalry recruited from all over Gaul by Caesar were commanded by their own leaders (Caes. *BGall.* 5.5).³⁷⁶

The preference of the spear and javelin as primary weapons and the existence of the shorter Celtic sword, which carries important implications for our perception of how the Celts waged war in the fifth-third centuries. If the Celtic warrior was equipped with a spear, or javelin and no body armour then it would suggest that the short sword was a secondary weapon, making them primarily spearmen, or skirmishers, not swordsmen as Polybius described them at Telamon (Polyb. 2.28-31).³⁷⁷ Secondly, the javelin, antennae sword and spear illustrate that the methods in which the Celts were using their weapons was similar to their Carthaginian, Celtiberian, Iberian, Italic, and Greek contemporaries.

³⁷⁵ (Cunliffe 1997) pp.107-08

³⁷⁶ (Cunliffe 1997) p.108

³⁷⁷ (Connolly 1981) p.118

4.6. *Greeks:*

Many of the Greek mercenaries mentioned as fighting in the service of Syracuse under Agathocles, Dion, Dionysius I, and Timoleon were likely amongst those settled in Sicily as rewards for their loyalty by these commanders (Diod. Sic. 14.10.1-4, 44.2, 16.66.2, 78.3, 20.11.1, 40-43; Plut. *Dion.* 22.4, 28.4; *Tim.* 7.3-9; Polyaeus *Strat.* 5.8.2).³⁷⁸ After his victory over the Carthaginians at Crimisus (341) Timoleon embarked upon a policy of repopulating eastern Sicily, resulting in as many as 60,000 settlers taking up his call, of which some 10,000 were from mainland Greece and the balance consisted of mixed populations from central and southern Italy (Diod. Sic. 16.82.3-5; Plut. *Timo.* 35).³⁷⁹ The influx of Greek mercenaries into Sicilian affairs between the late fifth to late fourth centuries conceivably played a major role in the military development of the island and its cities, particularly Syracuse. Consequently, in order to understand how these Greek mercenaries and migrants equipped themselves and fought it is important to look at the contemporary military developments in Greece.

Tarn noted by the mid 330's the "majority of mercenaries were probably armed as peltasts."³⁸⁰ However, what holds true for the eastern Mediterranean may not have held true for the west. Tarn was commenting on the Hellenistic armies of the east, for whom the hoplite was the standard soldier. Therefore, when light troops were required they were forced to recruit those people largely accustomed to fighting with such weapons. Hence, the prevalence of the Thracian peltasts, along with Cretan archers, and Rhodian slingers, mentioned as mercenaries in Greek and Hellenistic armies. In the west however, the situation seems to have been different as; the hoplite and phalanx tactics were not as fully developed. Thus, as the mercenary peltast in the eastern Mediterranean fulfilled a military need, so the Greek hoplite potentially filled a similar need in the armies of the west whose infantry appears to have been largely suited to skirmishing rather than direct melee encounters.³⁸¹

³⁷⁸ (Champion 2010) p.15, 101; (Finley 1979) p.96, 103; (Meister 1984) p.709

³⁷⁹ (Champion 2010) p.64, 68; (Finley 1979) p.99; (Talbert 1975) p.146; (Meister 1984) p.716

³⁸⁰ (Best 1969) p.134; (Tarn 1984) p.10

³⁸¹ (Trundle 2004) p.30

The Greeks are mentioned by Plutarch as fighting in a closed formation with locked shields at the battle of Crimisus (Plut. *Tim.* 27.10). However, this does not necessarily mean that they were fighting in a phalanx or that they were all uniformly armed as hoplites. The phalanx at times seems to have been applied as a universal term for any dense body of men in battle. Therefore, it is a possibility that there were enough Greek mercenaries armed as hoplites to man the front few lines, whilst the majority of the phalanx was possibly armed as peltasts, who supported the front ranks with their javelins and maintained a physical presence which was not that dissimilar to the flexible “cloud’s” that the Celts, Celtiberians, Iberians, Italians, Libyans, and Libyphoenicians fought in.

The Greek thrusting spear (*doru*) remained essentially unchanged throughout the Classical period. It differed little from the previously discussed Italic and Carthaginian counterparts, measuring between 1.8-3m in length.³⁸² The key features were the iron/bronze leaf shaped spearhead and the spiked butt (*sauroter*) which counterbalanced the weight of the head, whilst at the same time adding a secondary head if the primary head was broken and also served to protect the wooden butt of the spear from the ground.³⁸³ It is likely that the javelin, or dual-purpose spear was always used in Greek warfare, and although it may have for a time been excluded from the standard hoplite panoply in the wealthier Greek city-states, it seems to have remained the weapon of choice in the perceived primitive peoples of Greece such as the Aetolians, Akarnanians, Amphilochians, and Ozolian Lokrians (Thuc. 3.98.1-2; 7.31.5, 60.4; 3.107.4, 112.6; 95.3, 97.2).³⁸⁴ Dion, Pyrrhus, and Timoleon are all mentioned as having received javelin wounds, illustrating that the javelin was in widespread use in an age dominated by references to phalanxes (Diod. Sic. 16.12.4; Plut. *Pyrrh.* 21.9; *Timo.* 4.3).³⁸⁵ The fourth century saw a marked increase in the employment of light troops in Greece and there were a number of incidents where the heavily armed hoplite were mauled by light troops.³⁸⁶ For example, the Athenian defeat of Spartan forces at Lechaeum (390), Sphacteria in (425) , as well as similar incidents at Aegitium (426), and Piraeus (403),

³⁸² (Connolly 1981) p.63; (Matthew 2009) p.400; (Snodgrass 1967) p.96

³⁸³ (Connolly 1981) p.63 fig. 8,9; (Snodgrass 1967) p.46, 96; (Matthew 2009) p.402, fig.3, 403, fig.4

³⁸⁴ (Best 1969) p.16

³⁸⁵ (Champion 2010) p.19, 42;

³⁸⁶ (Connor 1988) p.27; (Van Wees 2004) p.65

(Thuc. 3.97-8, 4.32-36; Xen. *Hell.* 2.4.33, 4.5.11-18).³⁸⁷ Therefore it is probable that these events acted as the catalyst for the gradual evolution toward the lightly armed hoplite.³⁸⁸

There is no archaeological or literary evidence to suggest that the Greek javelin ever developed the thin iron shank that characterised Celtic, Iberian, or Italic javelins. Xenophon noted that javelins should be of “every variety, the blades broad and keen and shafts strong” (Xen. *Hunt.* 10.3).³⁸⁹ An image of a Thracian peltast on a Greek vase depicts weapons that are similar to the central and southern Italic dual-purpose spears with sturdy shafts, devoid of both shanks and *sauroter* together with leaf shaped heads and are often portrayed in pairs.³⁹⁰ This suggests that the iron shanked javelin was a development confined to the western Mediterranean.

Archaeological evidence from across the western Mediterranean suggests that the mark of a warrior in the funerary context was the spear, and/or javelin, not the sword. Therefore during the fourth-third centuries it is also probable that the sword was considered a secondary weapon in Greece, as it was amongst contemporary western Mediterranean cultures. Additionally, the evidence of Greek swords illustrates that like the thrusting spear they were very similar in size, shape and function to other swords across the Mediterranean. For example, the crescent shaped slashing sword (*kopis*) that remained popular among the Greeks and Macedonians is markedly similar to the Iberian *falcata* and the Italic *machaira*.³⁹¹ The cut and thrust antennae sword was also seemingly utilized by Greek soldiers with a variety of forms developing from the Bronze Age onwards.³⁹² By the conclusion of the Bronze Age, the evolution of the Greek antennae sword concluded with the *Naue ii* type sword with a blade measuring 55-60cm, which is of a similar length to the antennae swords in the western Mediterranean during the Iron Age.³⁹³

³⁸⁷ (London 2005) p.93; (Rawlings 2007a) p.86; (Tarn 1984) p.6; (Williams 2004) p.268,269

³⁸⁸ (Connolly 1981) p.49

³⁸⁹ τὰ δ' ἀκόντια ἔστω παντοδαπά, ἔχοντα τὰς λόγχας εὐπλατεῖς καὶ ξυρήκεις, ῥάβδους δὲ στιφράς

³⁹⁰ (Connolly 1981) p.49 fig.1,6

³⁹¹ (Connolly 1981) p.63, 77, 78. Fig. 2, 98 fig.12; (Quesada Sanz 2011b) p.50; (Snodgrass 1967) p.97, Pl.50

³⁹² (Molloy 2010) p.404 fig. 1, 405 tbl. 1

³⁹³ (Molloy 2010) p.421

By the mid-fourth century Greek shields largely conformed to the standard shield types across the western Mediterranean like the *hoplon* with its distinctive *antilabe* and *porpax* in addition to the oblong shield (*thureos*).³⁹⁴ In function, shape and weight the *thureos* resembled the oblong shield, and it seems to have been a development of the Thracian *pelte* which was originally a crescent shaped rimless wicker shield, and was later developed into the eponymous shield of peltasts (Diod. Sic. 15.44.1-4; Nep. *Iph.* I).³⁹⁵ By the beginning of the third century the *thureos* had become widespread in Greece and Macedonia, although it never fully replaced the *hoplon*, which was the dominant Greek shield from at least the mid-seventh century, where it first appears on the Chigi Vase and Macmillan aryballos.³⁹⁶

By the fourth century there were two dominant helmet types emerged in Greece, the *pilos* and the Thracian. The *pilos* seems to have been the most widely used helmet among both the Greeks and Macedonians by the fourth century and appears frequently on Athenian and Boeotian tombstones as well as in Magna Graecia (Plate 11).³⁹⁷ Additionally, the *pilos* can be seen on a Spanish mercenary's tombstone in Tunisia and in a Numidian grave at Es-Soumaa, which possibly suggests that this helmet type was transmitted via military interaction in Sicily.³⁹⁸ The *pilos* was a simple conical bowl that was held in place by a chin strap attach, creating a light helmet with unencumbered peripheral vision. Archaeological evidence from Pulgia and Sicily revealed that the height of the *pilos* range between 20-26cm.³⁹⁹ The simple design of the *pilos* would have enabled it to be produced cheaply and this likely contributed to its widespread adoption. Its appearance on the Adriatic coast of Magna Graecia may suggest that it was brought to Italy by Greek colonists and mercenaries.

The Thracian helmet also appears to have been popular in Greece as a heavier alternative to the *pilos*.⁴⁰⁰ The additional bronze and craftsmanship required to construct the helmet probably carried a greater amount of status and likely therefore to have made it popular

³⁹⁴ (Snodgrass 1967) p.110, 123

³⁹⁵ (Connolly 1981) pp.48-49 fig. 1,6; (Snodgrass 1967) p.78, 79, 95

³⁹⁶ (Lorimer 1947) p.80, 84; (Quesada Sanz 2011c) p.222; (Salmon 1977) p.89

³⁹⁷ (Connolly 1981) p.70;(Paddock 1993) pp.365-67 fig. 99, 370; (Sekunda 2012) p.20;(Snodgrass 1967) p.94 Pl.56; (Van Wees 2004) p.48

³⁹⁸ (Connolly 1981) p.150 fig.11

³⁹⁹ (Paddock 1993) p.378, 391-94, 396, 398

⁴⁰⁰ (Connolly 1981) p.63, 70; (Snodgrass 1967) p.95, Pl.53

amongst the wealthier warriors after the decline of the Corinthian in the fifth century. The Thracian helmet was constructed of a conical “somewhat bulbous bowl with a small protruding brow-band slightly extended neck guard and fixed cheek-pieces”⁴⁰¹ The design of the Thracian helmet resembles the Celtic Montefortino and the Samno-Italic helmet, albeit without the hinged cheek-pieces, which suggests that the development of helmets with cheek-pieces was occurring across the western Mediterranean from the fifth century.⁴⁰² A variation of the Thracian helmet appears in Etruria as the Etrusco-Thracian helmet, differing slightly with the original in that it has no cheek-pieces and the area around the ear is cut out.⁴⁰³ This suggests that there was a high level of adoption and adaptation of military equipment occurring between the Italians and Greeks from the fifth century onwards. The adoption of the lighter, open faced helmet carried important implications for both warfare and the warrior. A lighter helmet which was physically was both less exhausting to wear and allowed greater mobility suggesting that battles lasted longer. This is likely as a result of an increase in skirmishers during the fourth century, who prolonged battles with a series of skirmishes as opposed to an army of hoplites who fought purely melee battles that tended to be decided quickly. Furthermore, an open faced helmet provided the wearer with greater peripheral vision, denoting that the threats were coming from a variety of directions and thus warfare was fluid and open.

By the fourth century Greek cuirasses were divided into two major forms; the bronze anatomical cuirass and the *linothorax*. The *linothorax*, as previously discussed, was in widespread use across the entire Mediterranean and by the fourth century due to its functionality and the restrictive cost of the anatomical cuirass, was the most popular form of cuirass amongst the Greeks.⁴⁰⁴ In Macedonia, the *linothorax* was adopted as the standard body armour of the phalangites, if they in fact wore any at all, illustrating that the development towards lighter body armour was not confined to the western Mediterranean.⁴⁰⁵ Evidence suggests that cuirasses were the exception not the norm amongst Greek mercenaries during the fifth-fourth centuries.⁴⁰⁶ For example, Xenophon

⁴⁰¹ (Connolly 1981) p.61 fig.20, 63; (Paddock 1993) p.322; (Snodgrass 1967) p.95

⁴⁰² (Paddock 1993) p.320

⁴⁰³ (Paddock 1993) p.320, 323 fig.87

⁴⁰⁴ (Connolly 1981) p.57 fig. 1,3,6, 58; (Snodgrass 1967) Pl. 42,44,45,46, 90-92; (Van Wees 2004) p.48

⁴⁰⁵ (Connolly 1981) p.70, 80; (Snodgrass 1967) p.117, 119, 123

⁴⁰⁶ (Hanson 2000) pp.57-59; (Van Wees 2004) p.48

noted that of his famous 10,000 only a small number of cuirasses could be gathered together and in the army of Dionysius I only one in ten men bore them, which likely means only the officers and cavalry (Diod. Sic. 14.43.2-3; Xen. *Anab.* 1.2.15-16; 3.3.20).⁴⁰⁷ Consequently, Greek mercenaries in Carthaginian and Syracusan service likely fought with a variety of cuirasses in a similar manner to their Italic and North African contemporaries.

4.7. Summary:

In conclusion, the evidence discussed in this chapter suggests, that from the fifth century onwards, the frequency with which Syracusan tyrants hired Celtic, Iberian, and Italic mercenaries, who were also contemporaneously serving in Carthaginian armies, helped to facilitate the transmission of similar military equipment across the western Mediterranean. Moreover, the common military equipment attested in the archaeological record from across the western Mediterranean, further suggests that these soldiers were fighting with similar flexible missile orientated skirmishing tactics that held the potential to escalate into melee encounters, but that this was not the primary objective. This argument is strengthened by evidence indicating that the various foreign units in these heterogeneous forces retained their own commanders and natural tactics and although this appears only in Carthaginian and Roman contexts, it is highly likely that this was also true in Syracusan armies.⁴⁰⁸ Indeed, it appears as though the Celts and central and southern Italians fought in a similar 'cloud' based tactical unit which it has been argued was what contemporary Celtiberians, Iberians, and various Italic peoples utilized.⁴⁰⁹ Furthermore, the frequency and scale with which these soldiers were recorded as serving in Carthaginian and Syracusan armies potentially indicates that the flexible 'cloud' unit was the most commonly employed tactical unit in the western Mediterranean between 350-264. Consequently, the preceding investigation suggests that Syracuse was not only firmly entwined in the development of the western Mediterranean military *koine*, but that it, like Carthage and soon to be seen with Rome, was a major driving force in it.

⁴⁰⁷ (Van Wees 2004) p.48; (Hanson 2000) p.58

⁴⁰⁸ Carthaginian contexts: Livy 28.18-19, 35-36; 35.34.3-6; 37.5.30

Roman contexts: Diod. Sic. 19.12.1; Plut. *Pyrrh.* 16.10

⁴⁰⁹ (London 2005) pp.179-191; (Quesada Sanz 2006) pp.245, 258-263

Chapter Five: Rome

5.1. Overview

Whilst Rome did not engage in any military activity against Carthage or Syracuse between 350-264, it nonetheless appears to have played an important role in the development of the western Mediterranean military *koine*. This can be seen most clearly in the role that Rome played in facilitating the transmission of equipment such as the Montefortino helmet and shanked javelin throughout the western Mediterranean. For example, although the Montefortino helmet and heavy shanked javelin appear to have been of Celtic origin, they first appeared in the Italian peninsula in Etruria and Latium. Therefore, it appears likely that as Rome came to dominate the Italian peninsula during the fourth century, it acted as the conduit for this military equipment to be transmitted to other Italic peoples. The evidence discussed in the following chapter will illustrate that Rome's military interactions within Italy and the eventual absorption of its manpower worked together with the presence of Celtic and Italic mercenaries in Carthaginian and Syracusan armies in the transmission of the similar military equipment across large parts of the western Mediterranean. Additionally, this following chapter will demonstrate that, by fielding armies filled with similar troops, who utilized similar equipment and tactics, Roman armies from the fourth century onwards were very likely fighting in a comparable manner to their Carthaginian and Syracusan contemporaries.

The first half of the fourth century was turbulent for Rome. In 390/387 she had been sacked by a marauding war-band of Celts (Diod. Sic. 14.113-117; Dion. Hal. *Ant. Rom.* 13.6-12; Livy 5.34-39; Plut. *Cam.* 22; Polyb. 2.18). Rome then spent the immediate years consolidating her position in Latium against other Latin communities together with the surrounding Hill tribes (Aeui, and Volscians) and some Etruscan communities to the north (Tarquinia) (Frontin. *Strat.* 2.8.4; Livy 6. 6.6.4-6, 21.2, 32. 4-11, 33.1-3;).⁴¹⁰ However, the period 350-264 was for Rome characterised by rapid territorial expansion, which by 264 had resulted in their domination of the entire Italian peninsula below the Po Valley. This was facilitated by near

⁴¹⁰ (Alföldi 1971) pp.374-375; (Salmon 1953) p.130

annual warfare, which combined with inclusionary foreign and domestic policies, hastened their demographic, political, and military development.⁴¹¹

As Rome expanded its hegemony over the peoples of the Italian peninsula through the establishment of a network of alliances and colonies, it allowed these communities to retain their local autonomy and civic institutions.⁴¹² In this light Roman hegemony appears to have shared close characteristics to Carthaginian hegemony. However, unlike Carthage, Roman hegemony predominantly forwent financial revenues opting instead for access to the military manpower of its allies. Indeed, the treaties issued by Rome after 338 dictated that allied troops would be required to serve in Roman armies.⁴¹³ Consequently, by the outbreak of the First Punic War in 264, the Roman army commonly consisted of up to fifty percent allied soldiers, many of whom were central and southern Italians who were also recorded as serving in Carthaginian and Syracusan armies from the fifth century onwards (App. *Hann.* 8.31; Dion. Hal. *Ant. Rom.* 9.22; Polyb. 3.107.12, 6.26, 30.2, 6.26.7; Livy 2.49.4, 9.30.3).⁴¹⁴ Furthermore, as was the case with Carthaginian and Syracusan armies, this military service did not mean adoption of Roman equipment, and integration into existing Roman units.⁴¹⁵ It thus appears that, in a similar manner to Carthaginian and Syracusan armies, allied troops and mercenaries served in their own distinct units and retained their own commanders. For example, at the battle of Heraclea, Oblacus /Oplax the commander of unit of Frentanian cavalry is recorded as leading a charge against Pyrrhus (Diod. Sic. 19.12.1; Plut. *Pyrrh.* 16.10).

Following 350, the geopolitical interests of Rome and the Oscan speaking peoples of the Samnite League collided and resulted in the three Samnite wars (343-290) during which all of the major Italic ethnic groups, as well as the Celts, were recorded as either fighting for or against Rome at some point. Consequently, by the outbreak of the First Punic War, the

⁴¹¹ (Cornell 1990a) p.365; (Eckstein 2006) p.248, 251-53; (Goldsworthy 2001) p.38; (Harris 1992) p.180; (Lomas 2014) p.203-207; (Oakley 2014) p.18; (Serrati 2011) p.24

⁴¹² (Cornell 1990c) p.368; (Eckstein 2006) pp.251-251; (Forsythe 2011) p.37; (Heurgon 1973) p.200, 203; (Lomas 2014) p.203,207-208; (Pallottino 1991) p.144; (Salmon 1970) pp.13-14,16-17;(Scullard 2013) p.201

⁴¹³ (Cornell 1995) pp.366-367 (Drogula 2015) p.31; (Goldsworthy 2001) p.35; (Harris 1985) p.61; (Rosenstein 2004) p.63;(Sherwin-White 1980) p. 46

⁴¹⁴ (Cornell 1990c) p.386; (Eckstein 2006) p.230, 254; (Gabba 1989) p.222; (Keppie 1998) p.22; (Rawlings 2007b); (Sage 2013) p.52; p. 218; (Serrati 2011) p.9,24

⁴¹⁵ (Eckstein 2006) p.254

armies of Carthage, Rome, and Syracuse had all frequently fought with or against Celtic and Italic warriors since at least the fifth century. This prolonged cultural and military interaction with Celtic and Italic soldiers, who utilized remarkably similar equipment, very likely led to the military development of Carthage, Rome, and Syracuse being commonly influenced.

5.2. *The Roman State: Political Structure Extension of Hegemony.*

The following chapter will examine the Roman political system and its extension of hegemony in order to further illustrate the operational similarities between those utilized by Carthage and Syracuse and to also identify how these affected Rome's military development from the fourth century onwards.

Polybius noted that by the Second Punic War the Carthaginian political system differed from Rome's in that the people's assembly were the dominant political force, whereas in Rome this role was filled by the senate (Polyb. 6.51). However, as previously discussed, the Carthaginian political system, like its Roman counterpart was also heavily directed by the senate and as such both systems appear strikingly similar (Polyb. 6.11-18, 51). Furthermore, like Carthage, the Roman political system consisted of a series of annually elected magistrates, with two Consuls acting at the heads of state, as well as its supreme military commanders.⁴¹⁶ In this aspect Rome differs from Carthage, whose *suffetes* were denied military commands; whereas in Rome military command was intrinsically linked to political office.⁴¹⁷ Following the Licinio-Sextian laws of 367, plebeians appear to have been granted the ability to obtain the consulship and in the subsequent years Rome began to gradually expand plebeian access to the other major magistracies of the political system (albeit only the wealthy plebeians were ever likely to enter). Therefore it appears the Carthaginian and Roman political systems experienced similar changes to the entry requirements for political offices between the fourth and third centuries. For example, the Carthaginian Senate was by

⁴¹⁶ (Drogula 2015) p.2; (Goldsworthy 2001) p.39

⁴¹⁷ (Ameling 2011) p.48; (Lazenby 1996) p.20; (Warmington 1969) p.140

also by the beginning of the third century opened up to new men of sufficient wealth and power like the Barcids.⁴¹⁸

Aristotle's description of the Carthaginian government can also be largely applied to Rome (Arist. Pol. 1272b-1273b; Polyb. 6.51-6). Indeed, they both shared a similar mixture of monarchic, aristocratic, and democratic elements. The Consuls, like the *suffetes* represented the monarchic element with their powerful executive powers. The Senate, which acted as a deliberative council, provided the aristocratic element. Moreover, in a similar operational manner to its Carthaginian counterpart, the Roman senate first raised and deliberated laws and foreign policy before then passing them to the *comitia centuriata* to vote and ratify them. Finally the *comitia centuriata* (people's assembly) added the democratic element.⁴¹⁹ The *comitia centuriata* encompassed all adult male Roman citizens and timocratically divorced class membership from residence or familial ties, whilst also outlining the military equipment that they were required to present themselves with when the army took the field.⁴²⁰ It was also equipped with the powers to elect officials empowered with the right of *imperium* (the legal right to raise, and command troops) and legal jurisdiction such as; consuls, *praetors*, censors, *curule aediles*, and military tribunes in addition to having the deciding vote on decisions of war and peace (Livy 7.6.7).⁴²¹ Consequently, the *comitia centuriata* represented an army with the power to vote and was one of the most important political bodies of the Roman Republic.⁴²²

The military obligations of the five economic classes outlined in the *comitia centuriata* theoretically represented the basic troop types of the Roman army, and although Dionysius' and Livy's accounts differ slightly, the general picture remains constant (Dion. Hal. *Ant. Rom.* 4.16-18; Livy 1.42-43).⁴²³ The richest class the *equites* were required to provide cavalry, whilst the first class were to present themselves with what amounted to the panoply of the classical hoplite; cuirass, helmet, greaves, shield, and spear. As the classes descended so did

⁴¹⁸ (Scullard 1990)p.492

⁴¹⁹ (Goldsworthy 2001) pp.39-49

⁴²⁰ (Forsythe 2011) pp.24-26; (Heurgon 1973) p.193

⁴²¹ (Boatwright 2012) p.68; Staveley 1955 p.29; Forsythe p.26

⁴²² (Forsythe 2011) p.24

⁴²³ (Cornell 1995) p.179 tbl.2,181-183; (Forsythe 2011) pp.24-26; (Heurgon 1973) p.193; (Rosenstein 2010) p.290; (Smith 2006b) pp.282-286

the amount of military equipment a citizen was required to present themselves with. The second class were required to bear the same equipment of the first with the oblong shield replacing the *clipeus*, and the cuirass being omitted. The equipment of the third class mirrored that of the second class, without the greaves. The fourth class required only the spear and javelin, whilst the fifth classes were merely required to present themselves with slings. The military equipment detailed in the Servian reforms illustrates that the majority of Roman citizens were lightly armed warriors that appeared most suited to skirmishing roles. Consequently, the equipment examined in the following chapter when viewed with the Celtic, Celtiberian, Iberian, and central and southern Italic weaponry suggests that Roman armies were armed in a similar manner to their western Mediterranean contemporaries.

Whilst the evidence from the *comitia centuriata* appears to presents a rough outline of the military equipment used by early Roman armies, it should be treated with caution for three major reasons. First; the accounts of Livy and Dionysius do not agree on the weaponry, which Cornell rightly noted “almost certainly” indicates that they were using different accounts which were derived from the anachronistic inventions of antiquarians and annalists.⁴²⁴ Second, the weaponry listed by Livy and Dionysius does not provide specific evidence of the weapons used. They do not reveal if the type of javelin required of the fourth class was a shanked javelin or the shankless javelin described by Xenophon (Xen. *Hunt.* 10.3).⁴²⁵ Furthermore, it is possible that the spears of the first two classes may not have been the heavy thrusting spear equipped with a *sauroter*, but rather a dual-purpose spear (*hasta*). Third, it does not reveal whether the cuirass of the first class was a bronze Italic muscled cuirass, or the simpler *cardiophylax*, *linothorax*, or *spongia*. Consequently, whilst the military equipment outlined in the centuriate organization seems at first glance to be uniform, the variety of weaponry archaeological evidence throughout the Italian peninsula suggests that there were variations within these parameters. Thus, the centuriate organization of the Roman army is seemingly at odds with the archaeological evidence.

Whilst the Carthaginian and Roman political systems shared common characteristics it is important to note that they retained differences. The major difference between them was

⁴²⁴ (Cornell 1995) p.180

⁴²⁵ ἃ δ' ἀκόντια ἔστω παντοδαπά, ἔχοντα τὰς λόγχας εὐπλατεῖς καὶ ξυρήκεις, ῥάβδους δὲ στιφράς (Connolly 1981) p. 49 fig.1.6, 150; (Salimbeti 2014) p.168; (Warry 1980) p.50

that the Roman political body was inherently militarized. The *comitia centuriata* was essentially a civilian army empowered with the vote and was reflected by the fact that it was required, as an army was, to meet outside the city limits (*pomerium*) (Cass. Dio. 37.28.3).⁴²⁶ Furthermore, to qualify for *quaestor*, the first rung on the political ladder, a man was required to have served a minimum of ten years in the army.⁴²⁷ What was also unique was the Roman willingness to integrate allied aristocrats into the highest echelons of its political system. For example, by 264, Consuls would be elected from Campania (P. Decimus Mus), Caere (Ogulinii), Praeneste (Metelli, and Fabrici), and Tusculum (Coruncanii, Mamilii) something which although there is lack of evidence does not seem to have occurred in Carthage..⁴²⁸ The Roman willingness to assimilate, not alienate its former enemies, both politically and militarily, whilst at the same time allowing them to maintain their local autonomy and leaving their civic institutions unchanged, renders it probable that the same level of non-interference was extended to their military equipment and battlefield tactics.

The foundation of Roman expansion in the fourth and third centuries lay in the use of inclusive, but not civically intrusive alliances. These alliances bound former enemies individually to Rome, but generally allowed them to remain in control of their own internal affairs whilst in return Rome extracted the military manpower of their allies.⁴²⁹ Indeed, the ratio of Roman to allied troops following 338 could be as high as fifty percent.⁴³⁰ Rome, however, did not require these soldiers to serve in Roman units, but rather in a similar manner to which Rome allowed the defeated to retain their civic institutions and governments whilst allied troops served in their own units, with their own commanders, and ultimately with their own equipment.⁴³¹ This in turn enabled Rome to wage annual warfare with larger armies, whose allied citizens then shared in the profits, which consequently further tied them to Roman military success.⁴³² In this way, Rome differed from Carthage and Syracuse; lack of evidence aside there is no indication that the allies and communities defeated by Carthage and Syracuse were given shares in their territorial conquests.

⁴²⁶ (Cornell 1995) p.195; (Forsythe 2011) p.26

⁴²⁷ (Goldsworthy 2001) p.40

⁴²⁸ (Forsythe 2005) p.344

⁴²⁹ (Boatwright 2012) p.82; (Cornell 1990c) p.368; (Eckstein 2006) p.252; (Forsythe 2005) p.308; (Harris 1985) p.61

⁴³⁰ (Cornell 1995) p.366; (Rawlings 2007b) p.52; (Serrati 2011) p.224

⁴³¹ (Eckstein 2006) p.251

⁴³² (Cornell 1995) p.367

Syracusan mercenaries were at certain times granted citizenship and given lands in other Sicilian communities, but there is no evidence to suggest that this was extended to allied communities. Furthermore, this sustained military co-operation and contact with the various Italic peoples makes it plausible that Rome adopted, adapted, and ultimately assimilated some aspects of their military equipment and tactics (Livy 8.8).⁴³³

Although the seeds of Rome's integrative policies and military interaction with its allies were, according to literary tradition, laid in the *foedus Cassianum*, it was the defeat of the Latin League in 338 and the subsequent network alliances that were established that laid the foundation for Rome's rapid expansion henceforth. The settlement of 338 isolated the defeated communities from each other with bi-lateral treaties that prevented any political contact between them and bound them individually to Rome.⁴³⁴ In dealing with the defeated communities Rome, utilized two important features, *municipia* (self-governing communities) and *civitas sine suffragio* (citizens with full legal rights, but without the vote) which would become crucial factors in facilitating its increased military manpower and hegemony in the fourth century.⁴³⁵ The majority of Latin communities such as; Lanuvium, Aricia, Nomentum, and Pedum were granted citizenship and became *municipia* (Livy 8.14).⁴³⁶ The communities that geographically lay outside of the *Latium vetus* became *municipia* with *civitas sine suffragio* such as; Capua, Cumae, and Suessula (Livy 8.14).⁴³⁷ These communities although denied the right to vote, remained liable to the same legal rights and military obligations as full citizens.⁴³⁸ Furthermore, the communities established as *municipia* together with those granted *civitas sine suffragio* were not only required to provide troops for Roman armies, but also to cover expense of maintaining them in the field (*tributum*) which significantly lightened the financial burden of war for Rome.⁴³⁹

Alongside the utilization of the *municipia* and *civitas sine suffragio*, Citizen and Latin colonies played an important part in Roman expansion from the fourth century onwards.

⁴³³ (Cornell 1995) p.300; (Erdkamp 2006) p.283; (von Arnim 1892) pp.119-122

⁴³⁴ (Cornell 1995) p.348

⁴³⁵ (Serrati 2011) p.9,24

⁴³⁶ (Cornell 1990c) p.365; (Forsythe 2005) p.290; (Oakley 2014) p.25

⁴³⁷ (Sherwin-White 1980) p.40

⁴³⁸ (Sherwin-White 1980) p.46

⁴³⁹ (Cornell 1995) p.366; (Harris 1985) p.62; (Salmon 1970) p.49

Colonization had been frequently utilized by the Latin League during the fifth century, but there had been no new colonies established between 380-340.⁴⁴⁰ After 338 colonies were regularly founded on the confiscated land of defeated enemies and in cases such as Cales (334), were actually founded in existing settlements in which Roman colonists were settled.⁴⁴¹ Each colony was administered by an elected Senate, together with annually elected magistrates, and was headed by a board of two (*duoviri*) that reflected the dual Consuls at Rome.⁴⁴² However, the view promulgated by the words of Aulus Gellius that, colonies were essentially miniature Rome's has been questioned and although they did bear some resemblance to Rome especially in their physical layout, it highlights the anachronistic problems when attempting to interpret the early Republic (Gell. NA 16.13.8-9).⁴⁴³ As discussed previously, this appears similar to the recent reappraisal of the extent of Carthaginian influence over its allied communities and colonies.⁴⁴⁴

Between the late fourth to early second centuries Rome reportedly established 54 colonies, which by the outbreak of the Second Punic War amounted to an area of at least 9,000 km sq.⁴⁴⁵ Furthermore, during the period 334-263 as many as 70,000 adult male colonists and their families were distributed around the Italian peninsula.⁴⁴⁶ Many of these colonies were located on strategic military and trade routes.⁴⁴⁷ Cales was established in the valley protecting the Pomptine plain from the Sidicini which formed a militarized buffer between the Romans and Samnites.⁴⁴⁸ Fregallae (328) blocked the north-western entrance to the middle Liris plain from Samnite raiding, whilst in the north, Sutrium and Nepete (382) were founded by the Latin League on the "barriers and gateways to Etruria" (Livy 6.9.4).⁴⁴⁹

Colonies were divided into two types; Citizen (*coloniae civium Romanorum*) and Latin (*coloniae Latinae*). Citizen colonies were small consisting of around 300 families and were

⁴⁴⁰ (Oakley 1993) p.19

⁴⁴¹ (Cornell 1995) p.352; (Frederiksen 1984) p.207; (Salmon 1970) p.14, 41

⁴⁴² (Lomas 2014) p.207

⁴⁴³ (Bradley 2006) pp.161-162, 164; (Bispham 2006) p.74,79; (Salmon 1970) p.18

⁴⁴⁴ (Bispham 2006) pp.74-78

⁴⁴⁵ (Harris 1985) p.60; Rawlings p.49

⁴⁴⁶ (Afzelius 1942); (Cornell 1995) p.380, 381 table 9; (Oakley 1993) p.19; Rawlings p.49

⁴⁴⁷ (Boatwright 2012) p.81; (Oakley 1993) p.19; (Salmon 1970) p.15

⁴⁴⁸ (Cornell 1995) p.352; (Frederiksen 1984) p.207

⁴⁴⁹ (Cornell 1995) p.303; (Cornell 1990b) p.312; (Eckstein 2006) p.127 (Scullard 2013) pp.119-120

governed by Rome itself, in addition to retaining full Roman citizenship.⁴⁵⁰ Generally citizen colonies secured a Romanised presence in a region from which the ideas, language and customs of the Latins could co-exist and ultimately penetrate the surrounding culture.⁴⁵¹ Whilst, Latin colonies were numbered between 2,000-5,000 families and were intended to bring the urban culture of Rome to rural areas such as Samnium and the far north of Italy and to regenerate cities.⁴⁵² Thus, Latin colonies may have been utilized in a similar way to Carthaginian military garrisons and trading posts. Indeed, Latin colonies were largely organized along Roman lines, each had a senate, similar administrative structures and they retained civic autonomy.⁴⁵³ The clever distribution and utilization of colonies enabled Roman culture to co-exist among other Italic peoples, whilst at the same time providing benefits in terms of free land allotments. Furthermore, as Citizen and Latin colonies existed as outposts of Roman expansion they interacted with the surrounding communities on numerous levels, which plausibly helped the development of a common military *koine*.⁴⁵⁴ This process of cultural and military integration was likely to have mirrored the outcomes of Carthaginian colonies and trading posts and the settlement of mercenaries in Sicily, which consequently helped facilitate a common military *koine*.

5.3. *The Roman army: Etruscans and Latins*

The following chapter will examine Etruscan and Latin military equipment and tactics in order to illustrate that when it is viewed in conjunction with the prolonged military interaction between the Italic peoples and the equipment previously discussed that soldiers in Roman armies maintained common military tactics and broadly similar military equipment as their Celtic, Celtiberian, and Iberian contemporaries.

Although the evidence pertaining to the Roman army is exponentially greater than that of Carthage or Syracuse, tracing the evolution of the Roman army during the fourth and third centuries remains very problematic. First there are no direct contemporary literary

⁴⁵⁰ (Cornell 1990c) p.365; (Lomas 2014) pp.207-209

⁴⁵¹ (Cornell 1990a) p.365; (Lomas 2014) p.207-209; (Salmon 1970) pp.15-16; (Staveley 1990) p.428

⁴⁵² (Cornell 1990c) p.388; (Forsythe 2005) p.308; (Lomas 2014) p.207

⁴⁵³ (Cornell 1995) p.352; (Forsythe 2005) p.308; (Lomas 2014) p.207

⁴⁵⁴ (Cornell 1995) p.352; (Cornell 1990c) p.368; (Lomas 2014) p.207; (Wallace-Hadrill 2008) p.100

accounts, Polybius, the best source on the Roman army of the mid-republic, does not begin his account until 264, and wrote his account during the third Punic War. The manipular army described by Polybius is unlikely, for reasons that will be discussed, to have existed in this form during the fourth and third centuries (Polyb. 6.21-23). Livy provides the most complete narrative of the period, but his account was written in the first century, and although it can be relied upon for the broad outline of events, relies heavily on annalistic sources which scholars such as Luce, Miles and Walsh believe cannot be trusted.⁴⁵⁵ Indeed, Walsh argues that Livy illustrates “ignorance over military matters,” and in particular his work pertaining to weaponry.⁴⁵⁶ For example, Livy recorded that the Romans experienced a complete overhaul of military equipment and their tactical formation after they began to receive pay (*stipendium*) around 340 (Livy 8.8). In his description Livy, appears to be describing the army of the second century depicted by Polybius, with its distinct units the *velites*, *hastati*, *principes*, *triarii*, *rorarii*, and *accensci* each discerned by their equipment and role of the battlefield (Polyb. 6.40-42). Livy also states that during this military overhaul the Romans exchanged their circular shields for oblong shields and adopted the radically different *triplex* acies (checkerboard) formation. However, as this thesis has argued such changes were unlikely to have occurred during a period where it was the individual’s responsibility to arm themselves and where there was no centralised armoury. Furthermore, Roman hegemony did not interfere with the civic institutions and local autonomy of its allied communities who provided troops in large numbers. Thus, it is hard to see Rome being able to enforce radical military reforms on such allies. Therefore, the changes noted by Livy appear descriptive of the fully developed manipular legion, which again as this thesis has argued was unlikely to have occurred at the beginning of the fourth century. Consequently, Livy’s description of the weaponry and tactics are unlikely to accurately represent the Roman army of the fourth century (Livy 8.8).

The *Ineditum Vaticanum*, a work of unknown provenance from the second century attributes the Samnites with introducing the *pilum*, and oblong shield to the Roman army.⁴⁵⁷ However, the physical archaeological and iconographical record in Etruria and Latium

⁴⁵⁵ (Miles 1997) p.13, 220-226; (Luce 1977) p.26; (Walsh 1961) p.153

⁴⁵⁶ (Walsh 1961) p.197

⁴⁵⁷ (von Arnim 1892) pp.119-122

indicates that the oblong shield can be traced back to the eighth century, and may have initially been an Etruscan innovation.⁴⁵⁸ Whilst, as previously discussed, the shanked predecessor of the later Republican *pilum* is arguably of Celtic origin. However, the earliest Italic example from Marino in Latium is dated to the eighth century and is, like the oblong shield, continuously attested to in the archaeological and iconographic records from the fifth century onwards.⁴⁵⁹ Regardless of its origin, the shanked javelin was almost certainly utilized by some Etruscans and Latins before they encountered the Samnites.

Plutarch attributes a military reform to Marcus Furius Camillus during the beginning of the fourth century, in which, Roman soldiers were equipped with helmets similar to the Negau type, and trained to fight with iron rimmed oblong shields in order to counter the Celtic sword strokes (Plut. *Cam.* 40). As discussed previously, the archaeological record of the Celtic La Tène I culture illustrates that the sword was not the primary weapon for the vast majority of Celtic warriors. Furthermore, this evidence also indicates that between 400-250 Celtic swords measured 55-65cm, which was similar in length to the *Gladius Hispaniensis*, and was thus suited to cutting and thrusting, not the overhead slashes attributed to the longer Celtic sword that gradually appeared after 250.⁴⁶⁰ If the Celts were not using the long sword then Camillus' attempt to reinforce the rims of the Roman shield would seem an unnecessary innovation.

Moreover, the Etruscans, with whom Rome spent the majority of its military interaction up until the outbreak of the first Samnite war (343), are recorded as fighting in a Greek style phalanx in the *Ineditum Vaticanum*, which Livy appears to have also applied to the Romans. However, there are numerous problems with this narrative (Livy 8.8).⁴⁶¹ Additionally, although there are examples similar to the classical Greek hoplite panoply found in the Warrior tombs at Lanuvium and Vulci they are expensive panoplies in wealthy graves and have not been found outside of these contexts. Furthermore, Momigliano has raised serious questions over whether the structure of Etruscan society "with their social structure founded on a sharp distinction between nobles and clients" ever permitted them to field an

⁴⁵⁸ (Connolly 1981) p.95; (Stary 1979) p.184 fig.3, 187

⁴⁵⁹ (Connolly 1981) p.98 fig.14

⁴⁶⁰ (Hubert 2006) p.128

⁴⁶¹ (von Arnim 1892) pp.119-122

army of hoplites.⁴⁶² Questions have also been raised over whether these panoplies represent actual battlefield equipment, or in the case of the bronze cuirass from Tomb 43 at Narce, a “conspicuous display not advanced military technology.”⁴⁶³ The Etruscan system of aristocratic patronage was also central to Roman society.⁴⁶⁴ Therefore, if the picture of the Roman army cannot be trusted before the fourth century, where there is considerably more archaeological evidence, then the image of the Roman army during the fourth century, where there is little archaeological evidence, and problematic literary accounts written centuries later, should also be called into question.

Archaic and classical Italy is presented by the literary sources as being embroiled in almost constant warfare; be it raiding, skirmishes, or set-piece battle. Indeed during the period 350-264 Rome itself was not at war for only six years (347, 344, 328, 288-7, 285).⁴⁶⁵ Consequently, the literary evidence for the Roman military during the fourth and third centuries illustrates that the writers of the mid-late Republic and Empire did not know the exact details of how the army developed and, as such, attribute the changes to a variety of sources that do not fit with what is now known about the armies of the early Republic.

The picture presented to modern readers of the Roman army during the fourth century indicates that it retained elements of the Servian army. The *comitia centuriata* still formed the basis of recruitment for the Romans themselves, but as Rome did not interfere with the internal structures of its allies, it is likely that they retained their own levy systems and these may not have mirrored the *comitia centuriata*. The Roman army particularly after 338 consisted of up to fifty percent allied troops, and after 311 Rome began to continuously raise two Legions of citizens which equated to between eight to ten thousand infantry with six hundred cavalry. These were joined by two *alae* of allied infantry equal to the number raised by Rome, and accompanied by as many as nine hundred cavalry (Polyb. 6.26.7; Livy 9.30.3).⁴⁶⁶

⁴⁶² (Momigliano 1963) p.119

⁴⁶³ (Spivey 1990) p.129

⁴⁶⁴ (Wallace-Hadrill 1989) p.68

⁴⁶⁵ (Rawlings 2007b) p.47

⁴⁶⁶ (Cornell 1995) p.366; (Erdkamp 2006) p.283; (Goldsworthy 2001) p.49; (Rawlings 2007b) pp51-52; (Sage 2013) p.224

The variety of archaeological evidence pertaining to arms and armour discussed in this thesis suggests that Rome did not force its allies to adhere to the homogenous equipment and they were not integrated into existing Roman units, rather they fought with their equipment according to their regional preference, in their own units with their own local low level commanders.⁴⁶⁷ It is unlikely that citizen-militias levied from largely non-urbanised communities like the Aequi, Hercini, Volscians, as well as the peoples of central and southern Italy were able to be utilized in radically different and more complex fighting styles than they were accustomed to. Furthermore, Rome's conquest of Italy, particularly after 338 occurred within a century, which makes it unlikely that during this short period it was able to implement wide-scale military changes upon a seasonal, self-equipped citizen militia. It is more tenable to argue that, as Rome's hegemony extended southwards, the increasing frequency with which Apulian, Etruscan, Latin, Oscan, and Umbrian fought alongside each other led to individual soldiers at various times adopting similar weapons to those they fought beside. The archaeological evidence illustrates, that the gradual standardisation of Italic military equipment did not involve a radical adoption of hitherto unknown arms and armour; rather there was a wide range of military equipment in use throughout the Italian peninsula, as well as the wider western Mediterranean. The ever increasing cultural and military interaction that occurred between Rome and the Italic communities from the fourth century onwards, particularly the establishment of colonies and the wars that preceded their establishment probably provided an important conduit for the development of the western Mediterranean military *koine*.

Colonies brought together a wide range of Roman and allied peoples in a new community typically situated in a region surrounded by their defeated enemies. Consequently, prolonged multi-dimensional interactions between Rome and the other Italic communities likely resulted as the gradual standardization of military equipment was not achieved purely by "Roman design."⁴⁶⁸ A Volscian living alongside an assortment of Etruscans, Latins, and Umbrians in what was formerly Samnite territory would be more likely to gradually adopt the similar weaponry of his fellow colonists that he fought alongside, or the surrounding Oscan speakers if it offered advantages over his traditional weaponry. For example, the southern Italic predilection for a lighter shanked javelin was eventually replaced by a

⁴⁶⁷ (Burns 2003) p.66,70; (Rawlings 2007b) p.52; (Small 2000) p.231

⁴⁶⁸ (Burns 2003) p.61,63,76

heavier shanked javelin.⁴⁶⁹ However, this change would not have occurred instantaneously, nor would it immediately have been adopted by other colonists, who for a variety of reasons may have chosen to retain their existing equipment. Consequently, this change was unlikely to have uniformly occurred between 350-264.

Moreover, a gradual uniformity of equipment does not automatically translate to standardization of tactics. For example, citizens from Fregallae serving in the Roman army were not quartered with the army for the entire year, nor were their commanders required to attend a Roman military academy to instil the tactics of the manipular system. Therefore, it is plausible to argue that the individual units of the Roman army during the fourth to mid-third centuries fought according to the tactics that their weaponry dictated, and that they were accustomed to, and that this was common throughout the western Mediterranean

According to Livy, when Rome increased its number of Legions from two to four in 311, the number of military tribunes was increased to sixteen, which Gary Forsythe associated with a tactical re-organization of the Roman army (Livy 9.30.3).⁴⁷⁰ However, the evidence to support these views rests on the general assumption that an increase in the total number of legions, and accordingly the number of military tribunes automatically translated into a tactical reorganization is weak.⁴⁷¹ Furthermore Forsythe noted, that the recent defeats suffered by Rome at the Caudine Forks (322) and Lautulae (315) contributed to the reforms of 311 (Livy 9.2-6; 9.23.3-5).⁴⁷² However, Rome suffered ninety defeats during the Republic, and not all of them resulted in wholesale tactical changes.⁴⁷³ It is plausible that the manipular reforms occurred sometime during the Second Punic War, when the defeats inflicted by Hannibal removed an immense amount of military equipment from circulation. This then resulted in Roman armies having to be largely equipped with new arms and armour produced *en masse* from workshops. Furthermore, during Hannibal's seventeen years in Italy soldiers were required to stay in the field for longer periods than they had previously become accustomed to, and this likely provided the continuity needed to train

⁴⁶⁹ (Burns 2003) p.66

⁴⁷⁰ (Forsythe 2005)p.304

⁴⁷¹ (Potter 2004) p.72

⁴⁷² (Forsythe 2005) p.304

⁴⁷³ (Eckstein 2006) p.219

units and entire armies in the complex tactics of the manipular system described by Livy and Polybius (Livy 8.8; Polyb. 6.21-23).

The majority of Roman battles of the fourth century are portrayed by Livy as drawn out skirmishes not decisive melee encounters therefore it becomes difficult to argue that, when larger battles were fought during the same period, they then radically altered their battle tactics (Livy 22.6; 23.40; 24.15; 25.19; 27.2; 27.12).⁴⁷⁴ There are several occurrences where Roman officers were struck by javelins, not struck with spears or swords, suggesting that skirmishing was a regular occurrence, as the javelin was a skirmisher's weapon (Livy 8.9; 24.42; 25.19; 29.2; 41.18).⁴⁷⁵ When viewed in conjunction with the accounts of Dion, Pyrrhus, and Timoleon also being hit with javelins this seemingly suggests that warfare in the western Mediterranean was likely javelin based (Diod. Sic. 16.12.4; Plut. *Pyrrh.* 21.9; *Timo.* 4.3).

Due to the prevalence of javelins and dual-purpose spears previously discussed in regard to central and southern Italy, and later in this chapter pertaining to Etruria and Latium, it appears much more creditable to argue, that when larger set piece battles did occur such as Allia (390) and Antium (338), these encounters unfolded as a series of skirmishes between individual units at different times, and at different points across the battlefield until one side was sufficiently motivated to engage at close quarters to seek a decisive victory (Livy 5.37-38; 8.13).⁴⁷⁶ Furthermore, as Rome's conquest of Italy continued they absorbed the peoples of central and southern Italy with whom they had previously fought in these skirmish orientated engagements. Consequently, it is highly likely that the reason why the various Italic peoples, like the Celts, Celtiberians, and Iberians in Carthaginian armies, were able to be so rapidly integrated into Roman armies was because they fought with similar equipment, and employed similar tactics, and unit command structures.⁴⁷⁷ Certainly, the archaeological evidence supports the views held by the author of the *Ineditum Vaticanum*

⁴⁷⁴ (Koon 2011) p.90; (Sabin 2000) p.4

⁴⁷⁵ (Sabin 2000) p.12

⁴⁷⁶ (Goldsworthy 2001) p.56; (Sabin 2000)

⁴⁷⁷ (Quesada Sanz 2011c) p.228

that the Samnites were a people who employed javelins, and oblong shields as their primary weapons.⁴⁷⁸

This skirmish orientated warfare, when viewed together with the archaeological evidence dominated by javelins and spears, appears to corroborate Quesada Sanz' 'cloud' theory, where a smaller number of heavily armed troops, mixed together with lighter armed troops to form a 'cloud' which he argues remained the basic battlefield unit for both Iberian and Roman armies during the second century.⁴⁷⁹ This model appears to corroborate both, Van Wees' view of the Archaic Greek phalanx, where aristocrats went into battle surrounded by their retainers, the majority of whom were not heavily armed, and the views of several Roman scholars on early Roman clan warfare.⁴⁸⁰ It is interesting to note that Van Wees believed that the end of this mixed formation coincided with the rise of the Greek states' ability to exert the collective power of the people over these powerful aristocrats or clan leaders.⁴⁸¹

The relationship between the growth of state control and the development of tactical military reforms in Greece appears to have occurred at a later date in Rome, where such patronage and its resulting private war-bands were also a cornerstone of archaic society. It appears that the Roman state did not develop enough power to gain control over these private war-bands until after the Licino-Sextian rogations of 367.⁴⁸² Consequently, as the Greek states and Rome developed politically, it resulted in the development of the classical phalanx and the beginnings of the manipular Legion, which separated specialist heavy troops from the lighter troops each with a defined battlefield role. Therefore, the 'cloud' of mixed troop types may have represented a common embryonic phase of battlefield tactics in the western Mediterranean, from which the phalanx and manipular army with their specialised troop types evolved, as the state began to exert more power over the private armies of powerful individuals.

Within the 'cloud's, the heavy troops due to their wealth, social status, and armament held their ground at the rear of a cluster consisting of their clients and fellow clan members,

⁴⁷⁸ (Salmon 1967) p.105; (von Arnim 1892) pp.119-122

⁴⁷⁹ (Quesada Sanz 2006) pp.245-263

⁴⁸⁰ (Drogula 2015) p.80; (Rich 2011) p.15; (Rosenstein 2004) p.292; (Van Wees 2004) p.182, 233

⁴⁸¹ (Van Wees 2004) pp.233-235;

⁴⁸² (Drogula 2015) p.42, 375; (Wallace-Hadrill 1989) p.68

which were primarily armed with javelins and oblong shields, in addition to a variety of body armour of which they could afford, or had plundered.⁴⁸³ These lightly armed troops would then surge forward in order to hurl their javelins, expanding outwards like fingers from a fist, in order to obtain the room required to launch their javelins effectively, whilst at the same time presenting a less densely packed target for their similarly armed enemies to hit.⁴⁸⁴ The rear echelon of heavily armed troops would hold their position to create a steadying influence on those surging forward, as well as providing a rallying point behind which the light troops could retire between volleys. If the morale of the light troops broke they could retreat behind the heavily armed troops, who would theoretically hold their ground, creating a wall of spears in a similar manner to the *triarii* of the later manipular Legion (Polyb. 6.21).⁴⁸⁵ From this point the light troops could rally, and potentially either re-engage in the melee, or resume launching their javelins over the heads of the heavily armed troops.

If the Roman army of the fourth to mid-third centuries fought in such a manner, the eventual development of the manipular Legions described by Polybius in the second century would appear to be a logical tripartite specialisation of the existing 'cloud' system into skirmishers (*velites*), dual-purpose spearmen (*hastati/principes*), and heavy spearmen (*triarii*), not a radical tactical reform (Polyb. 6.21-23). With the outbreak of the First Punic War in 264, Roman armies were for the first time called upon to serve overseas for an ever increasing amount of time. These extended tours of duty, and the large amount of accompanying downtime would have provided the Roman commanders with sufficient time to train their men in the more rigid separation of troop types, and battlefield roles that the manipular system required. Therefore, as the archaeological evidence discussed below illustrates, the Roman armies between 350-264 should not be seen as fighting in a distinct and radically different method from contemporary Carthaginian and Syracusan armies. Possibly the sole Roman exception in terms of military equipment is that they potentially utilized the shanked javelin on a greater scale than the Carthaginian and Syracusan armies. For example whilst they both employed Celtic, Celtiberian, Iberian, and Italic troops who

⁴⁸³ (Drogula 2015) p.22; (Drummond 1989) p.99; (Quesada Sanz 2006) p.251

⁴⁸⁴ (Quesada Sanz 2006) p.251

⁴⁸⁵ (Bishop 2006) p.53; (Connolly 1981) pp.128-129; (Keppie 1998) p.22,34,39

used shanked javelins, they also utilized Greek and North African troops who appear to have maintained the use of shankless javelins.

Spears are the most commonly depicted weapons in the Etruscan iconographical record, and whilst the wealthy funerary context in which they were found carries problems of interpretation they appear to have been a standard symbol of a high status warrior. Painted fourth century images of warriors with spears have been found on the walls of the François Tomb at Vulci, and the Tomba del Orco II, and on the Amazon Sarcophagus in Tarquinia.⁴⁸⁶ The most common representation of spears however, appears in reliefs such as two Warrior slabs from Orvieto and Castiglioncello in addition to the Certosa situla, and two bronze sheets from Marsiliana.⁴⁸⁷ These spears are similar to the spears found throughout the western Mediterranean, appearing in a variety of leaf shaped heads. It is interesting to note that spears are rarely depicted with a defined *sauroter* attached which may indicate that the majority of Etruscan and Latin spears were dual purpose *hastae*, or alternatively that Etruscan artists consciously omitted them. This may explain why the warriors depicted on the Văce Clasp and Arnoaldi situla carry two spears, with large leaf shaped heads that at first seem too large to be javelins (Plate 6).⁴⁸⁸ The utility of the *hastae* would certainly have provided the warrior with an increased ability to involve themselves in both the skirmishing and melee phases of a battle. Physical examples of spear heads have been discovered in funerary contexts at Chiusi, and the tomb of the Warrior at Lanuvium. These spearheads are in accordance with the great variety of spearheads found across the western Mediterranean; the example from Chiusi is a thin elongated head which suggests that it could be thrown, whilst at Lanuvium the spear head is a broader leaf shape and was found alongside a *sauroter*, which suggests that it was purely a thrusting spear. Despite these examples being discovered in expensive tombs, they are of similar shape and size to the spear heads previously discussed in Carthaginian, and Syracusan contexts. Therefore, because thrusting spearheads are found in wealthy funerary contexts across the western Mediterranean, it is tenable to argue that the thrusting spear was utilized by the upper echelons of society on the battlefield, and in turn symbolised their status in death.

⁴⁸⁶ (Briguet 1986) p.162 fig.96; (Gelba 2012) p.51 fig.5.5-6, 52 fig.5.7,

⁴⁸⁷ (Stary 1979) pl.20b, pl.26a,b

⁴⁸⁸ (Connolly 1981)p.103 fig.12-13

The expensive panoply from Lanuvium with its apparent thrusting spear likely supports the ‘cloud’ theory in which the heavily armed warriors were withheld from the skirmishing phases of battles only engaging the enemy during the decisive melee. This then fits in with Polybius’ description of the Roman *triarii* who occupied the last line of the Roman manipular system (6.23). Furthermore, as thrusting spears are not as common as *hastae* and javelins in Etruria and Latium, it is then conceivable to argue that military encounters in this region were more likely to be orientated towards missile skirmishes that held the potential to culminate in decisive melee engagements.

Javelins are widely attested in the both the archaeological and iconographic evidence in Etruria, and Latium, and although they are rare in physical form, they illustrate in conjunction with evidence from across the western Mediterranean that the javelins and spears constituted the primary offensive weapons of fourth and third centuries. Socketed javelins which bear similarities to the later *pila* of Numantia and Renieblas (Spain) first appeared in the fifth century, and have been discovered in a tomb from Vulci, whilst a similar javelin with a shorter shank has been found at Telamon.⁴⁸⁹ These socketed *pila* show shared characteristics with a series of socketed Celtic javelins from Montefortino, and Monte Bibeale, in addition to an Umbrian example from Montericco near Imola, as well as an early bronze version found at Marino in Latium.⁴⁹⁰ The similarities of these javelins are the long thin iron shanks that were fitted to a wooden haft by a socket that was forged in one piece with the head and shank. The heads of these javelins range from small pyramidal points to longer leaf shapes, with some examples from Monte Bibeale in particular having barbed arrow-like heads.⁴⁹¹ Shanked javelins are depicted on the wall of the Giglioli tomb, where they are portrayed as very thin long objects with oval bugles three quarters of the way up the weapon, which is likely an attempt to distinguish the shank from the haft, although Small viewed these as *amenta*.⁴⁹² The numerous examples of the shanked javelin

⁴⁸⁹ Vulci see: (Connolly 1981, Bishop 2006) .98 fig.9, 100 fig.8. Numantia and Renieblas see: (Bishop 2006) p.51 -53 fig.1-3,5, 9; (Connolly 1981) p.131 fig.7-9

⁴⁹⁰ Monte Bibeale see: (Lejars 2008) pp.127-128, 140-142, 146-147, 167-157 fig. 5A, 6,9; Montefortino see: (Tomczak 2012) p.57 fig. B-E Montericco see: (Small 2000) p.225; (Tomczak 2012) p.57 fig.10; Latium see, (Connolly 1981) p.92 fig.14; Vulci see, (Connolly 1981) p.98 fig.9; (Tomczak 2012) p.56 fig.9 A

⁴⁹¹ (Lejars 2008) pp.127-128, 140-142, 146-147, 167-157 fig. 5A, 6,9; (Tomczak 2012) p.56 fig 9, 57 fig.10

⁴⁹² (Connolly 1981) p.100 fig.5; (Small 2000) p.226

from northern Italy and particularly the regions inhabited by Celts (Montefortino, Monte Bibele) when compared to the previously discussed evidence from central and southern Italy, indicate that the socketed javelin is likely to have been introduced through Celtic interaction. Socketed javelins without shanks have also been discovered but are, on the whole, rarer than their shanked counterparts both artistically and physically in Etruria and Latium.⁴⁹³

The added penetrative power provided by the shanked javelin may have initially been developed as a counter to the oblong shield with its horizontal handgrip, which enabled the defender to hold the shield further away from his body than the hoplite shield. The Celts did not develop a shield similar to the hoplite shield and appear to have adhered to variations of the bossed oblong shield instead. This then may have resulted in the Celts being the first peoples of the Mediterranean to experiment with a shanked javelin in order to gain an advantage over the defensive capabilities of the oblong shield type shield against javelins. Certainly the dynamics of a shorter but broader headed javelin without a shank would have been less successful against a oblong shield that enabled the warrior to both hold the shield further away from his body, while maintaining the ability to punch outwards with the shield in an attempt to ward off a javelin. Therefore, the continued series of cultural and military interactions between the Celts, and the Etruscans, and Latins would have likely given the Italians enough time and reason to gradually adopt the shanked javelin as their primary missile weapon sometime during the fourth century. This argument is strengthened by the archaeological timeline that traces the shanked javelins presence in Latium as far back as the Villanovan period, and then appearing with increased frequency in Etruria, and the Po Valley from the fifth century onwards.

There is strong evidence indicating that there were two dominant sword types in Etruria and Latium; the curved *machaira*, and the antennae sword, which is not only typical of central and southern Italy but also of the wider western Mediterranean. The majority of this evidence has been derived from wealthy warrior graves of Etruria (Tomba del Guerriero, Tomba Giglioli), and Latium (Tomb of the Warrior). The evidence from these tombs

⁴⁹³ (Connolly 1981) p.98 fig.5

illustrates a continuous chronology of use pertaining to both the *machaira*, and antennae type swords dating back to the seventh century.⁴⁹⁴

The *machaira* was a single edged sickle shaped sword similar to the *falcata* and *kopis*⁴⁹⁵. A fifth century *machaira* was discovered in the Tomb of the Warrior at Lanuvium measuring 81.7cm long and 7cm wide at the head, and at Alalia.⁴⁹⁶ A similar, but far older *machaira* dating to the Villanovan period was also unearthed in Este and a sixth century example from Populonia illustrate that the weapon was subjected to little change from the Bronze Age to the Iron Age.⁴⁹⁷ The *machaira* has been attributed as being an Etruscan invention, which was then transferred to Greece, most probably through the same *koine* which made Greek styled vases so popular in Etruria.⁴⁹⁸ This same *koine* which saw Etruscan and Greek mercenaries serving together in Carthaginian and Syracusan armies may have led to the Iberian adoption of the *falcata*.⁴⁹⁹

The antennae sword seems to have been by the fourth century the most common type of sword in Etruria, and Latium. A physical example of these have been discovered at Tomb of the Warrior c.525 (Vulci) and Alalia (Corsica) with blade lengths ranging between 60-70cm and places the swords of Etruria and Latium on a par with other contemporary cultures in the western Mediterranean who also utilized the antennae type sword.⁵⁰⁰ Whilst artistic representations have been discovered at the Tomba Giglioli and the François Tomb both of which, date to the fourth century, as well on a third century cinerary urns from Chiusi, and the Capestrano warrior.⁵⁰¹ Furthermore, antennae swords are also represented on late fifth to early fourth century stela from Bologna, illustrating what appears to be a naked Celtic warrior duelling with an Etruscan cavalryman both of whom carry antennae swords, whilst the left cheek piece of a helmet discovered at Todi illustrates two hoplites fighting with hoplite shield and antennae swords.⁵⁰²

⁴⁹⁴ (Stary 1979) p.192, 198

⁴⁹⁵ (Connolly 1981) p.63,77, 78 fig.2, 98 fig. 12,13, 107 fig.7; (Quesada Sanz 2011b) p.50; (Quesada Sanz 1997b) p.254 fig.2

⁴⁹⁶ (Connolly 1981) p.98 fig.13; (MacMullen 2011) p.103;

⁴⁹⁷ (Connolly 1981) p.98 fig.12; (Stary 1979) p.192 fig.5

⁴⁹⁸ (Connolly 1981) p.99; (Stary 1979) p.192

⁴⁹⁹ (Quesada Sanz 2011b) p.49

⁵⁰⁰ (Connolly 1981) p.98 fig. 3; (George 2014) p.743;

⁵⁰¹ (Connolly 1981) p.100 fig. 5, p.101 fig.13; (Briguet 1986) p.162 fig.96; (Weir 2010) pl.31

⁵⁰² (Pallottino 1991) Pl. 24; (Stary 1979) Pl.23, 27a,

The Celtic and Italic preference for the antennae sword may have also developed out of the more prolific use of the oblong shield. In order to successfully slash at an opponent a warrior was forced to use an over headed diagonal movement, which requires the shield to be swept away from the body and out of the weapons arch. The vertical handgrip (*antilabe*) and forearm sleeve (*porpax*) enabled this movement to be carried out with much greater ease than the horizontal handgrip of the oblong shield. As Italic warfare became more orientated towards the use of missile, it is likely that the oblong shield correspondingly became the shield of choice as it offered superior protection against javelins (Livy 9.19; Polyb. 6.23).⁵⁰³ Consequently, a sword type like the antennae may have become favoured because it facilitated thrusting which could be achieved without moving the shield away from the body and thus exposing the soldier's body. Therefore, although the antennae sword could still be used in diagonal slashing motion, the vertical handgrip and greater size of the oblong shield would require more skill to execute without leaving the body vulnerable to counterattack.

A sword wielding warrior was physically restricted by his weapon to close quarter combat and his killing zone was dictated by the length of the sword itself, consequently this acted as a severe disadvantage when fighting an enemy equipped with a thrusting spear, or a ranged weapon like the javelin. A swordsman, in order to physically inflict wounds upon enemies armed with spears and javelins, needed to close this gap as quickly as possible.

Furthermore, the physicality of utilizing swords in a continuous melee does not appear to fit with the prolonged battles described by Livy, which could last several hours (Livy 22.6; 23.40; 24.15; 25.19; 27.2).⁵⁰⁴ Indeed, Adrian Goldsworthy noted that it would be very unlikely that a melee encounter would last longer than fifteen minutes before the soldiers would physically and mentally exhaust themselves.⁵⁰⁵ Whilst, Livy's battlefield narratives cannot be relied upon for the finer details, the perception that battles could be drawn out affairs seems to be corroborated by Vegetius who noted that battles usually lasted two or three hours, which would have been an unsustainable if fought as a continuous melee

⁵⁰³ (Burns 2006) pp.151-152; (Rawlings 2007b) p.58

⁵⁰⁴ (Goldsworthy 2001) pp.56-57; (Sabin 2000) pp.4,11

⁵⁰⁵ (Goldsworthy 2001) pp.56-59; (Sabin 2000) pp.11-14

encounter (Vege. *Mil.* 3.9). It is interesting to note, that Plutarch recorded that the battle of Pydna was won in under an hour at a time when the primary offensive weapon of Roman soldiers was the sword (Plut. *Aem.* 22). As a result it appears conceivable that swords were only utilized to quickly decide the outcome of a battle, in a manner similar to an eighteenth century bayonet charge.⁵⁰⁶ This conceivably occurred after a series of repeated javelin skirmishes which had sufficiently weakened the enemy line.⁵⁰⁷

The relative scarcity of swords in the archaeological evidence from Etruria and Latium suggests that, like contemporary cultures across the western Mediterranean, swords were expensive items not readily utilized by the vast majority of soldiers during the fourth and third centuries. Moreover, the lack of physical examples in burial deposits suggests that they were far too valuable to be taken out of circulation, and were much more likely to be recycled by family members of the deceased. The literary evidence, albeit from the first century, further indicates that the sword was not the dominant weapon of Italic battlefields in the fourth and third centuries. For example, the most common weapon to kill Roman officers was the javelin, and Livy records five instances where they inflict mortal wounds (Livy 8.9; 24.42; 25.19; 29.2; 41.18).⁵⁰⁸ This seems to be corroborated by the accounts of Dion, Pyrrhus, and Timoleon, who also received javelin wounds whilst fighting in the western Mediterranean (Diod. Sic. 16.12.4; Plut. *Pyrrh.* 21.9; *Timo* 4.3).⁵⁰⁹ Consequently, the greater evidence pertaining directly to spears and javelins likely indicates that warfare in Etruria and Latium was primarily skirmish orientated and fought javelins and spears. This illustrates that between the fifth and third centuries Roman warfare was not exceptional, but rather it was operating according to a common western Mediterranean military *koine*.

There is an abundance of helmets in the archaeological and iconographical record. The most common helmets can be distilled into three categories; the Negau, Etrusco-Thracian, and Montefortino. The most commonly attested to physically is the Negau helmet with 112 examples, although it is very rarely depicted in iconographic contexts (Plate 10).⁵¹⁰ The

⁵⁰⁶ (Sabin 2000) p.13

⁵⁰⁷ (Sabin 2000) p.14; (Tomczak 2012) p.42

⁵⁰⁸ (Sabin 2000) p.12

⁵⁰⁹ (Champion 2010) p.19, 42

⁵¹⁰ (Paddock 1993) p.174, 178-184 tbl.1

archaeological record reveals that the Negau helmet was an indigenous Etruscan development, which first came into use sometime during the sixth century remaining virtually unchanged until the fourth or possibly third centuries.⁵¹¹ The Negau represents the most common native Italian helmet and archaeologically continues to be attested in Etruria and a large region of central and southern Italy between the Bay of Naples and Puglia until the first century.⁵¹² Furthermore, the Negau has also been attested in the Celtic regions of the Po Valley bearing Etruscan inscriptions, which illustrates that there was a high degree of exchange occurring in regard to military technology among the variety of cultures of the entire Italian peninsula from the sixth century onwards.⁵¹³

The surviving examples of the Negau helmet show that in typology it belongs to the pot helmet family, which included the *pilos*.⁵¹⁴ It was constructed of bronze, and shaped in a tall, slightly bulbous angular bowl with a ridge that rises sharply towards the apex providing two opposed surfaces designed to glance blows.⁵¹⁵ Iconographic representations of the Negau are rare, but crested examples can be seen on the Certosa situla and the Văce Clasp, in addition to a non-crested Negau portrayed on the Arnoaldi situla.⁵¹⁶ The sheer volume of Negau helmets discovered throughout the Italian peninsula indicates that it was probably the helmet of choice for the majority of Italic warriors due to its simple design, which likely made it affordable to most sections of society. The Negau was devoid of both cheek and neck guards, which indicates that warriors were concerned about maintaining a high degree of visibility when fighting which one would require during a fluid skirmish. Moreover, the absence of cheek and neck guards also suggests that defence against close quarter injuries to the face did not constitute a major concern as it did for Greek hoplites and their closed faced Corinthian helmet. Consequently, this proffers strong evidence for the majority of Italic warriors acting as skirmishers, who were not primarily equipped for melee combat.

During the fourth and third centuries the Etruscans, and Latins appear to have begun adopting and experimenting with helmet types such as the Etrusco-Thracian, and later Celtic

⁵¹¹ (Connolly 1981) p.97,99; (Stary 1979) p.196

⁵¹² (Paddock 1993) p.174; 188 fig.37; (Stary 1979)

⁵¹³ (Ellis 1998) p.41; (Rawlings 2007b) p.54

⁵¹⁴ (Connolly 1981) p.99

⁵¹⁵ (Connolly 1981) p.98 fig. 2,3; (Paddock 1993) p.176, 177 fig.38; (Pallottino 1991) pl.17

⁵¹⁶ (Connolly 1981) p.96, 103 fig.12,13

Montefortino that could offer neck, and flexible cheek protection (Plates 8-9). Although the Montefortino helmet was of Celtic origin and later became the standard Roman helmet until the first century A.D. The development of the Etrusco-Thracian helmet illustrates that the Etruscans, and possibly the Latins were developing helmets that were relatively similar in design and function to the Celtic Montefortino, and the Samno-Attic helmet of central and southern Italy. The Etrusco-Thracian helmet is similar visually, and in typology to the Samno-Attic helmet with a “high conical bowl issuing from a well fitted but slightly concave brow band which is everted at the front and drawn down at the rear to form a neck-guard.”⁵¹⁷ The primary difference between the Etrusco-Thracian and Samno-Attic helmet is that the former is not always equipped with cheek pieces like its southern counterpart (Plates 7-8).⁵¹⁸ The Etrusco-Thracian helmet appears to represent a midway point in the development of Etruscan and Latin helmets between the Negau and Montefortino helmets, as warriors were seeking to obtain added melee protection without compromising their vision and hearing. Furthermore, the movement towards helmets with *bucculae* suggests that even the wealthy troops were possibly engaging in skirmishing as well as melee combat when called upon.

Examples of the Italic muscled cuirass have been discovered in the Warrior’s Tomb at Lanuvium, and the Tomb of the Seven Rooms at Orvieto.⁵¹⁹ Whilst artistic representations of the cuirass are present on some of the soldiers depicted on the wall of the François tomb, and is worn by one of the duelling brothers on the cinerary urns from Chiusi, it is depicted with far less frequency than the *linothorax*.⁵²⁰ This suggests that the Etruscans and Latins by the fourth century had largely abandoned the heavy bronze cuirass. As warfare became more flexible, and skirmish orientated, the cuirass would have provided its wearer with severe mobility disadvantages when fighting against enemies equipped with the lighter *cardiophylax* or *linothorax*.⁵²¹ The physical rigidity of the armour, especially around the shoulder would have also hindered the warrior’s ability to hurl a javelin, and likely resulted in it becoming unsuitable for Italic warfare. Furthermore, the original Greek version of the

⁵¹⁷ (Connolly 1981) p.100 fig.3; (Paddock 1993) p.322, 323 fig.87

⁵¹⁸ Etrusco-Thracian see (Connolly 1981) p.100 fig 3; (Paddock 1993) p.330 fig.1-3; Samno-Attic see (Connolly 1981) p. 108 fig.10, 112 fig. 1,4; (Paddock 1993) p.402 fig.107

⁵¹⁹ (Connolly 1981) p.99, 100 fig.4; (MacMullen 2011) p.103

⁵²⁰ (Briguet 1986) p.162 fig.96; (Weir 2010) pl.31

⁵²¹ (Aldrete 2013) pp. 142-143

bronze cuirass, upon which the Italic cuirass was undoubtedly modelled, was initially designed for quick decisive hoplite encounters. Therefore as Italic warfare was orientated towards skirmishing, which potentially lasted several hours, the weight and heat of the bronze cuirass would have rendered it uncomfortable and energy sapping when worn for long periods.

The *cardiophylax* like the muscled cuirass is rather sparsely attested to in the physical record and is almost entirely absent in the iconographic evidence from Etruria and Latium.

However, when viewed in conjunction with Polybius' account and the ample evidence of its existence provided in central and southern Italy, it is probable that it saw greater use than is archaeologically recorded (Polyb. 6.23.14). What evidence has been discovered illustrates that the use of the *cardiophylax* can be traced back to the eighth century, with a series of physical examples illustrating that the circular or square *cardiophylax* remained in use in the following centuries onwards, whilst it is also artistically represented on a warrior from Ceri (Plate 32).⁵²²

As a result of its bio-degradable construction material no physical specimens of the *linothorax* have yet been discovered in Etruria or Latium. Fortunately in Etruria, there are numerous artistic representations of the *linothorax*. Indeed they constitute the dominant cuirass type in Etruscan iconography in the fourth century. For example, painted images of the *linothorax* appear on the walls of the François tomb (Vulci) and the Tomba del Orco II, as well as on the sarcophagi of the Amazon, and the Priest all of which date to the fourth century (Tarquinia).⁵²³ The *linothorax* is also represented on numerous reliefs such as the sarcophagus from Torre San Severo at Orvieto, and on the cavalryman depicted on a stela from Bologna, both of which date to the fourth century, in addition to several cinerary urns depicting the duelling Eteocles and Polyneices from Chiusi.⁵²⁴ Depictions of the *linothorax* are not confined to a funerary context in Etruria and can be seen on both Vibenna brothers depicted on an engraved bronze mirror from the third century.⁵²⁵ The abundant fourth century evidence in Etruria pertaining to the *linothorax* when viewed with its popularity

⁵²² (Connolly 1981) p.93 fig.7-8, 98 fig. 14-17; (Stary 1979) p. 183 fig.4, 188 fig.4, 189

⁵²³ (Connolly 1981) pg.69; (Gelba 2012) p. 50 fig. 5.2-4, 51 fig. 5.5-6; 52 fig. 5.7

⁵²⁴ (Gelba 2012) p.53 fig.5.8; (Pallottino 1991) pl.24; (Weir 2010) pl.31

⁵²⁵ (Bonfante 1986) p.247 fig.20

among the peoples of central and southern Italy demonstrates that by this period it had become the dominant form of cuirass over the entire Italic peninsula. This evidence subsequently suggests that the most common panoply among the Italic peoples of the fourth and third centuries consisted of spears and javelins together with a oblong shield, and either a *linothorax*, *cardiophylax*, or *spongia*. Furthermore, the functional aspect of this panoply indicates that Italic warfare was heavily orientated towards mobility and skirmishing rather than densely packed continuous melees.

As in central and southern Italy, and North Africa, the Etruscan and Latin shield types conform to two types; the *clipeus*, which seem to have been a popular shield for those wealthy enough to afford lavish tombs, and the oblong shield which gradually entirely replaces the *clipeus*. The *clipeus* has been traced back to at least the sixth century in Etruria, with physical examples discovered at the Warrior's Tomb at Vulci, and a *clipeus* which now resides in the Vatican Museum.⁵²⁶ Artistically the *clipeus* is well represented particularly in Etruria appearing on the walls of the François and Giglioli tombs which date to the fourth and third centuries respectively. *Clipei* also appear on series of reliefs dating between the fifth to third centuries, such as above the sarcophagus of the tomb of Reliefs at Cerveteri, the tombstone of *Aule Feluske*, as well as on the Certosa situla (Plate 33).⁵²⁷ The Certosa situla is of particular importance, as it illustrates warriors equipped with both *clipei* and oblong shields indicating that both shield types were being utilized together by the end of the sixth century.

Whilst the *clipeus* provided adequate protection from spear and sword blows, its circular shape did provide suitable leg protection against javelins. Therefore, as Italic warfare progressed towards a javelin orientated skirmishing which required a greater degree of upper and lower body protection and mobility, the oblong shield gradually replaced the *clipeus* as the shield of choice even for the wealthy. However, the continued appearance of the *clipeus* in the archaeological and iconographical record is likely due to its status being with associated wealth, power, and a connection to a mythological Greek past. An example of this is the continuation of the *clipeus* in cinerary urn reliefs dating to the second century

⁵²⁶ (Connolly 1981) p.53 fig. 1-4, 98 fig.3; (Stary 1979) p.188,192 fig. 3

⁵²⁷ (Connolly 1981) p.98; (Briguet 1986) p.162 fig.96; (Pallottino 1991) Pl. 18,32; (Steingräber 2006) p.254

which appear in wealthy chamber tombs at Volterra and depict the duel between the brothers Eteocles and Polyneices, as well as the death of Oenomaus.⁵²⁸ Therefore, whilst the archaeological evidence suggests that the *clipeus* was a popular shield type down into the second century, it must be approached with caution as it has the potential to be misleading.

The oblong shield is not as well attested in a funerary context as the *clipeus* precisely for the above mentioned reasons. Tradition ascribes that it was not the shield of the aristocracy, and consequently held less prestige among those wealthy enough to afford a chamber tomb (Dion. Hal. *Ant. Rom.* 4.16-18; Livy 1.42-43). Archaeological evidence suggests that the spindled bossed oblong shield first appeared in Etruria during the eighth century with examples being found in the necropolis of Poggio alia Guardia at Vetulonia, and Veii.⁵²⁹ Indeed, Stary attributes this as an indigenous invention which was then transferred to the Celts, who after the rise of the *clipeus* re-introduced it during their invasions of the fourth century.⁵³⁰ However, the complete disappearance of the oblong shield is unlikely and it may be more tenable to argue that it was no longer favoured by wealthy Etruscans, who appear to have adopted aspects of the Greek hoplite panoply. Further evidence supporting the existence of the bossed oblong shield in Etruria can be found on a seventh century bronze figurine, in addition to a contemporary relief depiction from Vetulonia (Plate 34).⁵³¹

Artistically the oblong shield can be dated to the fifth century on the Certosa situla, and thereafter there appears to be a large gap in the iconographic record until the appearance of the javelin armed warriors illustrated on the Arnoaldi situla and Văce Clasp. These two depictions are of great importance as they illustrate that by the end of the sixth to mid-fifth century the spindled boss oblong shield was associated with javelin armed troops. The contemporary prevalence of the oblong shield in the archaeological record throughout central and southern Italy, which favoured the use of the javelin in addition to its appearance amongst Celts, Celtiberians, Greeks, Iberians, and North Africans, strongly suggests that by the fourth century it had become dominant shield of the western

⁵²⁸ (Briguet 1986) p.118 fig.33, 119 fig. 34, 121 fig.37

⁵²⁹ Vetulonia - (Connolly 1981) p.95; Veii - (Stary 1979) p.184 fig. 3

⁵³⁰ (Connolly 1981) p.63; (Stary 1979) p.187

⁵³¹ (Connolly 1981) p.96 fig.1,2

Mediterranean. Consequently, if the oblong shield was the shield of choice for the majority of troops which favoured the javelin across the western Mediterranean, it is then conceivable that skirmish orientated warfare accompanied it.

5.4. Summary:

In conclusion the evidence examined in the preceding chapter suggests that from the fourth century onwards the Roman political system and its extension of hegemony shared many operational characteristics with Carthage. For example, it appears that neither of these hegemonies enforced radical changes to the civic institutions of those under their sphere of influence rather they appear to have been light handed, allowing them to retain local autonomy and civic institutions in addition to extending certain common legal rights.⁵³² Although, there were apparent differences that should not be overlooked, namely the military obligations that accompanied Roman hegemony, this too may not have been wholly unique. Indeed, Carthage appears to have levied some of its Libyan troops in a similar codified manner, and although there is no surviving evidence to offer support it is likely that many of the former mercenaries settled in Sicilian communities by Syracusan tyrants were obliged to serve when required.⁵³³ Furthermore, it is interesting that the civically unobtrusive nature of Carthaginian, Roman, and Syracusan hegemony appears to have replicated itself with regard to the military equipment and tactics that they used. Consequently, like Carthaginian and Syracusan armies, when the Italic allies fought for Rome they retained their own equipment, tactics and commanders.

The similarities of military equipment attested to in the archaeological record indicates a distinct western Mediterranean panoply that was increasingly predicated upon light body armour, open faced helmets with cheek pieces, oblong shields together with shanked javelins, and spears (many of which appear to have been multi-purpose). Moreover, the contemporary development of the Etrusco-Thracian, Montefortino, and Samno-Attic

⁵³² For Carthage see: (Ameling 2011) pp.47-51; (Bridoux 2014) pp.181-182, 200; (Papi 2014) pp.202-218; (Hoyos 2010) p.49; (Lazenby 1996) p.24; (Wallace-Hadrill 2014) pp.302-304

For Rome see: (Boatwright 2012) p.82; (Cornell 1990c) p.368; (Cornell 1995) p.352; (Eckstein 2006) p.252; (Forsythe 2005) p.308; (Harris 1985) p.61; (Lomas 2014) p.207

⁵³³ (Ameling 2011) p.48; (Goldsworthy 2001) p.29,33; (Lazenby 1996) p.26; (Picard 1994) p.379; (Scullard 1990) p.504

helmets, oblong shields and shanked javelins indicates that during the fourth century Celtic, Celtiberian, Iberian, and Italic soldiers were utilizing remarkably similar military equipment that appears to have fulfilled a common purpose when fighting.

With regard to the Roman adoption of the manipular legion by 264, the speed of Roman expansion following 338 together with its light handed hegemony, which seemingly allowed allied units to retain their own tactics, in conjunction with the seasonal campaigning, left little time to train units in a complex tactical formation such as the manipular system described by Polybius (6.21-23). Therefore, it appears increasingly likely that Roman hegemony was not able to enforce a radical tactical overhaul on its allies during the fourth century. Consequently, it is increasingly unlikely that the literary narratives portraying Roman tactical exceptionalism during this period are accurate. Indeed, in this light it is more tenable to argue that the Roman armies before the First Punic War fought in similar flexible 'cloud' based units employed by the Celtic, Celtiberian, Iberian, and Italic soldiers who also fought in contemporary Carthaginian and Syracusan armies.

Chapter Six: Conclusions

6.1. Carthaginian, Roman, and Syracusan hegemony:

The investigation conducted throughout this thesis of Carthaginian, Roman, and Syracusan socio-political systems and in particular the methods in which they extended their respective hegemonies suggests that, although they retained certain differences, they appear to have shared many common operational characteristics which influenced the way in which their armies were recruited, equipped, and tactically fought. For example, allied communities under Carthaginian, Roman, and Syracusan hegemony retained their local autonomy and civic institutions and it appears that this same degree of non-interference was also applied when they served in their respective armies. Indeed, as this thesis has repeatedly demonstrated it is generally agreed that allied troops and mercenaries alike retained their own equipment, tactics, and unit commanders. In this light it appears that the hegemonies of Carthage, Rome, and Syracuse operated in comparable ways and

consequently it is difficult to conceive that they were able enforce radical tactical changes to their heterogeneous armies.

The extent of Carthaginian hegemony, which encompassed North Africa and the eastern regions of the Spanish peninsula in addition to western Sicily, appears to have acted as a major catalyst in the development of the western Mediterranean military *koine*. For example, it is unlikely that without the Carthaginian presence in the Spanish peninsula that Celtiberian and Iberian soldiers would have been exposed to Celtic, Italic, Greek, and North African troops with the frequency that they were. Furthermore, the struggles between Carthage and Syracuse over Sicily which attracted many Celtic and Italic mercenaries similarly enabled them to frequently fight with and against (and in many cases live alongside) other Celtiberians, Iberians, Greeks, and North African soldiers. Indeed, the appearance of Celtic and Italic military equipment in North Africa and the Spanish peninsula probably had its genesis in these frequent interactions. Consequently, it appears highly likely that the two centuries of military interaction between these culturally and geographically diverse soldiers who fought in Carthaginian and Syracusan armies from the battle of Himera (480) to the outbreak of the First Punic War (264) provided the basis from which the western Mediterranean military *koine* initially evolved.

6.2. Socio-political power dynamics:

The socio-political power dynamics at work within Carthage, Rome, Syracuse and those communities under their respective spheres of influence operated in similar ways and very likely also affected their military systems. For instance, these socio-political power dynamics primarily revolved around familial ties and client-patron relationships, rather than the individual's direct relationship with the state. Thus, when soldiers were recruited it was largely along these lines and as a result it is likely that these relationships dictated that men fought in the same unit as those who were responsible for their recruitment. Additionally, it is highly likely that due to the varying levels of economic prosperity among client, patrons and even within families in a period when it was the individual's responsibility to equip themselves meant that there was a higher proportion of soldiers who would have borne less expensive equipment such as javelins. Thus, when viewed in conjunction with the large

number of javelins in the archaeological record, it appears that the bulk of troops fighting in the western Mediterranean were primarily equipped to operate as skirmishers. Therefore, it is tenable to argue that the common tactical unit in the western Mediterranean was the flexible 'cloud' arranged around common socio-political relationships and filled with a mixture of light and heavy troops. Furthermore, as the heavier troops were more likely to have been wealthier and thus wielded more power and status, it is probable that they expected the lighter troops (who were probably the junior partners in the power dynamic) to engage the enemy first, which as skirmishers would mean expanding out from the 'cloud' to launch their javelins. These same troops could then retreat behind the more heavily armed troops should the encounter escalate into melee combat, a phase which presumably would not only suit the more expensive equipment of the heavier troops, but also potentially mirror the protective role of the wealthy patrons and thus potentially would be in consonance with their ethos.

In conclusion, these common socio-political relationships potentially indicate that the 'cloud' was the common embryonic tactical unit across much of the western Mediterranean from which later more sophisticated tactical systems evolved. Indeed, if this is true then the 'cloud' appears to have been the basic tactical unit from which the Roman manipular system was developed. Certainly, the specialist division of troop types with specific functions of the manipular legion bears close resemblance to what Lendon and Quesada Sanz, in particular have argued was already occurring within the 'cloud'.⁵³⁴

6.3. Military Equipment:

What have been apparent throughout this investigation are the remarkable similarities between the military equipment among the geographically diverse body of soldiers who served in Carthaginian, Roman, and Syracusan armies between the fifth and third centuries. The majority of this equipment appears to have been designed to facilitate flexible missile orientated skirmishing, although it certainly retained the potential to escalate into melee combat.

⁵³⁴ (Lendon 2005)pp.179-191; (Quesada Sanz 2006) pp.245, 258-263

The physical and iconographic evidence discussed in this thesis indicates that during this period the most popular offensive weapons among the Celts, Celtiberians, Iberians, and the various Italic peoples were shanked javelins and spears (many of which can be considered to have been multi-purpose). These weapons strongly suggest that warfare in the western Mediterranean prior to Punic Wars was largely conducted by soldiers who intended to primarily engage in flexible missile orientated skirmish warfare. For example; the contemporary development of the open-faced Etrusco-Thracian, Montefortino, and Samno-Attic helmets with cheek pieces (which in many cases were flexible). These characteristics suggest that soldiers were seeking helmets that allowed them to retain their peripheral vision (when the cheek pieces were tied up), a trait that appears suited to skirmishing, whilst at the same time could also offer protection when engaging in melee combat (once they were tied down). Moreover, evidence suggests that during the fourth and third centuries light cuirasses (*cardiophylax*, *linothorax*, and *spongia*) were utilized by the majority of troops, rather than the heavy and physically restricting Greek styled cuirass which was gradually phased out during this same period. This apparent shift in cuirasses likely indicates that soldiers were seeking body armour, which could still provide adequate protection, without severely inhibiting their ability to manoeuvre and thus successfully function in flexible skirmish orientated warfare. With regard to shields, the evidence of oblong shields from the Italian and Spanish peninsulas, North Africa, and Celtic occupied Europe strongly supports the argument that by the third end of the third century it had become the most common shield type in the western Mediterranean.

Moreover, the oblong shield was equipped with three distinct characteristics that rendered it particularly suitable for skirmish orientated warfare. Its horizontal handgrip provided a larger degree of manoeuvrability as opposed to the circular hoplite styled shield, whilst its iron boss enabled the deflection of missiles. Furthermore, the greater size and shape of the oblong shield provided better protection for the bearers' legs than the hoplite shield and this may in turn have led to the gradual decline in the use of greaves.⁵³⁵ These characteristics, when viewed in conjunction with its widespread adoption across the western Mediterranean likely indicates that the oblong shield, like the Montefortino helmet

⁵³⁵ (Burns 2006)p.232

was widely adopted because it was well suited to use in both flexible missile base skirmishes and melee encounters.

Finally, evidence strongly indicates that swords were secondary weapons, which further suggests that melee combat was not the primary aim in western Mediterranean armies. Indeed, when facing enemies who were primarily armed with javelins and spears, soldiers wielding swords would have been severely disadvantaged. Consequently, the congruencies within the archaeological evidence pertaining to Celtic, Celtiberian, Iberian, Italic, and North African soldiers which has been examined throughout this thesis, strongly suggests that warfare in the western Mediterranean between 350-264 was primarily fought between similarly equipped, but heterogeneous armies who engaged each other with common tactics in what was primarily missile based skirmish orientated warfare.

6.4. *The western Mediterranean military koine:*

The contemporaneous development and transmission of similar military equipment across the western Mediterranean between the fifth and third centuries strongly suggests that a common military *koiné* was in existence. However, there is of course an enormous amount of further research required in order to fully map out the arguments raised throughout this thesis. Indeed, this thesis did not set out to comprehensively answer the questions first raised, but it does demonstrate that with further research this could potentially be achieved. Specifically, a deeper and more detailed examination of arms and armour is required in order to better understand the developmental continuum of military equipment and tactics in the western Mediterranean prior to the end of the Punic Wars. Much of the current state of research has not been primarily focused on the in-depth examination of military equipment. Indeed, currently, outside of a few very detailed works on military equipment namely by Connolly, Burns, Bishop and Coulston (albeit their work is largely focused on the Later Republican period onwards) Paddock, and Quesada Sanz, this area is understudied.⁵³⁶ Moreover, many of the studies pertaining to military equipment in the

⁵³⁶ (Bishop 2006); (Burns 2003); (Burns 2006); (Connolly 1981); (Paddock 1993); (Quesada Sanz 2006); (Quesada Sanz 2011c)

Also see: (Aldrete 2013); (Brizio 1899); (Brunaux 1987); (De Navarro 1972); (Gelba 2012); (Lejars 2008); (Saulnier 1980); (Schneider-Herrmann 1996, Quesada Sanz 2014); (Serritella 1995); (Small 2000); (Stary 1979); (Stary 1981a); (Stary 1981b); (Tomczak 2012)

western Mediterranean are focused on Italic developments and consequently the important role that the Celts, Celtiberians, and Iberians increasingly appeared to have played in the development of the western Mediterranean military *koine* has been largely neglected. Quesada Sanz has been particularly important in leading the studies of these peoples within the Spanish peninsula, but there is little else and particularly in regard to the Celts of southern France who bridged the Italian and Spanish peninsulas.⁵³⁷

This investigation has attempted to observe the wider trends of military development amongst the cultures of the western Mediterranean and to study them as inter-connected entities, rather than view them as occurring independently. Indeed, the Celts, Celtiberians, Iberians, and Italic peoples in particular appear to have been highly inter-connected and this appears to have been largely facilitated through their shared military interactions as mercenaries in Carthaginian and Syracusan armies from the fifth century onwards. Thus, by 264 these geographically disparate cultures had experienced almost 150 years of intense interactions where they had ample time to develop a common military *koine*. Indeed, it is hard to imagine that the frequency and length of these interactions would not have developed a common way of waging war as was the case in the wider Greek and Hellenistic worlds. The western Mediterranean needs to be studied as one diverse, but inter-connected military entity in the same manner that Greece, Epirus, Macedonia, and the Hellenistic eastern Mediterranean have largely been. If this can be achieved then a more concise explanation of the manipular legions evolution may be able to be discovered. For example, the Macedonian phalanx developed rapidly under Phillip II, but only after centuries of exposure to the military developments occurring within the Greek world. Indeed, it appears that the Macedonian phalanx was achieved under a centralised state and this may have also occurred in Rome once they had developed sufficient centralisation to achieve a tactical reform (Diod. Sic. 16.3; Polyaeus *Strat.* 4.2.10).⁵³⁸ This lack of centralisation may have been a factor in the Celts, Celtiberians, and Iberians seemingly not being able to tactically progress past the embryonic ‘cloud’ and could also have led to the sense of Roman exceptionalism by later writers who admired Rome’s ability to govern.

⁵³⁷ (Quesada Sanz 1992); (Quesada Sanz 1997b); (Quesada Sanz 1999); (Quesada Sanz 2006); (Quesada Sanz 2011c); (Quesada Sanz 2011b); (Quesada Sanz 2011a); (Quesada Sanz 2014); (Quesada Sanz 1998)

⁵³⁸ (Cawkwell 1978) pp.151-160; (Ellis 1976) pp.8-9; (Hammond 1980) pp.54-60; (Hornblower 2011) p.202, 277-279; (Müller 2010) pp.169-171; (Sekunda 2010) pp.446-452; (Worthington 2008) pp.26-33

With regard to the Roman adoption of the manipular legion before the First Punic War, it appears that the arguments predicated upon the Roman-centric literary tradition for Roman tactical exceptionalism, at least during the fourth century is becoming increasingly weak. Admittedly, this argument represents a paradigm shift and challenges a host of well-respected scholarly studies since the late nineteenth century and as such it requires extensive investigations in order to establish itself. However, if this can be expanded upon, then the development of military equipment and tactics in the western Mediterranean (particularly outside of Roman contexts) has the potential to be better appreciated. This is something I intend to address in my forth coming doctoral studies, where I will continue to examine the western Mediterranean as an inter-connected military entity.

Appendix 1: Cavalry.

Numidian Light Cavalry:

The Numidian horsemen were regarded as the light skirmishing cavalry par excellence in the western Mediterranean during the span of the Roman Republic, and performed a crucial role for both Hannibal's and the Roman armies during the Second Carthaginian war (Livy 29.34.17; Polyb. 3.65, 73-74, 112, 116).⁵³⁹ Mounted on small ponies without saddles, bridles, or bits they steered their mounts with their thighs and were equipped with light javelins together a small round *caetra* like shield, and either a dagger or a short sword (Livy 35.11-12).⁵⁴⁰ A second century tomb of a Numidian aristocrat at Es-Soumaa in Algeria has revealed iron javelin heads together with an antennae type sword with a blade of 60 cm.⁵⁴¹ Additionally, Numidian horsemen are depicted on Trajan's Column with mounts wearing only a simple neck strap together with a third century terracotta statuette from South Italy showing a Numidian rider with no armour or saddle.⁵⁴² Third century coins from King Syphax again show saddleless riders help to reinforce Silius Italicus and Livy's descriptions of the Numidian's riding their horses without saddle or bit (Sil. *Pun.* 1.215).⁵⁴³

In order to retain their manoeuvrability and speed Numidian cavalry wore no armour opting for simple tunics that enabled them the flexibility they required to hurl their javelins. An iron conical *pilos* style helmet was discovered inside the Es-Soumaa tomb which may indicate that Numidian Aristocrats were willing to adopt some armour possibly as a status symbol. The *pilos* is a simple helmet without any cheek pieces to obstruct the rider's peripheral vision therefore it would retain its suitability for a rider who relied on agility and speed.⁵⁴⁴ The Numidian cavalry constituted an important arm of the Carthaginian armies; they were fast and nimble which allowed them to rush forward and engage the enemy with a volley of javelins then retire before the enemy could close and engage with them. In addition to their skirmishing duties, their endurance meant that they were ideally suited to

⁵³⁹ (Goldsworthy 2001) p.32; (Scullard 1990) p.495

⁵⁴⁰ (Bagnall 2005) p.149,150; (Goldsworthy 2001) p.32; (Lancel 1995) p.61; (Salimbeti 2014) p.38; (Sidnell 2006) p.172

⁵⁴¹ (Connolly 1981) p.150; (Salimbeti 2014) p.38

⁵⁴² (Connolly 1981) p.149

⁵⁴³ Anonymous, 'Syphax', <<http://www.livius.org/person/syphax>>, Accessed March 24, 2015

⁵⁴⁴ (Salimbeti 2014) p.34

the pursuit of a fleeing army, raiding, and to act in both a screening and scouting role (App. *Hann.* 6.35, 40; Livy 21.29, 25 9; Polyb. 1.19, 3.44-45, 68.-69, 71-74, 116, 3.71.33-34).⁵⁴⁵ The agility and speed of the Numidian horsemen meant that they were often used as bait in order to harass and lure their enemy into an early attack or ambush, which is precisely how Hannibal used them at the battle of the Trebia in 218 (Polyb. 3.71-72).

Carthaginian:

The Carthaginian cavalry was likely filled by those wealthy enough to provide their own horses, and again parallels can be drawn with contemporary Iberian, Italic, and Greek societies. This would have probably excluded the majority of the citizen population.⁵⁴⁶ Archaeological evidence provides some indication of the equipment used by Carthaginian cavalry. A Terracotta disc dating to the sixth century in the Museum of Carthage (Tunis) depicts a cavalryman riding a horse with a bridle and bit, but without a saddle and he is armed with a spear and a round *clipeus* style shield, although it cannot be proved that this shield was not a smaller lighter version.⁵⁴⁷ Additionally, a fragmentary third century stela also in the Museum of Carthage shows the Carthaginian war-god *Adad* on a horse with a bridle equipped with a Montefortino styled helmet and possibly what is a plumed spear butt (*sauroter*). There is no evidence pertaining directly to the length of the Carthaginian cavalry spears, however the standard cavalry spear of Alexander and the successor Hellenistic Kingdoms is referred to as a *xyston*, the length and weight of which is uncertain. (Arr. *Anab.* 7.6.5; Strabo 10.1.12).⁵⁴⁸ The use of the *xyston* in the eastern Mediterranean does not necessarily mean that Carthaginian cavalry utilized a similar weapon, but the physical dynamics of cavalry warfare would seem to dictate that the cavalry spear would need to reach the infantrymen before their spear could touch the rider or horse. Therefore, a cavalry spear would be likely to be longer than the hoplites spear of 225cm, and this has been seemingly corroborated by physical evidence.⁵⁴⁹ Consequently, the panoply of a mid-fourth

⁵⁴⁵ (Bagnall 2005) p.8; (Sidnell 2006) p.172

⁵⁴⁶ (Salimbeti 2014) p.23

⁵⁴⁷ (Salimbeti 2014) p.39

⁵⁴⁸ (Bar-Kochva 1976) pp.75-76; (Sekunda 2012) p.9; (Snodgrass 1967) p.120; (Tarn 1984) p.71

⁵⁴⁹ (Hammond 1989) p.60; (Manti 1983) p.77

to early third century Carthaginian cavalryman is likely to have consisted of a thrusting spear/lance, circular shield, and an antennae type sword, together with a crested helmet, together with a cuirass made of either linen or bronze. The legs of a cavalryman are the most exposed, and vulnerable body part when fighting infantry, thus it is possible that some cavalrymen wore *pteryges* to provide additional protection.⁵⁵⁰

Central and southern Italians:

The central and southern Italians were able to produce cavalry in reasonable numbers, of and held a high reputation. Indeed, the plains of Apulia and Campania did historically produce effective cavalry and the word Tarentine would become to the Greeks synonymous with skirmishing javelin armed cavalry.⁵⁵¹ Central and southern Italic cavalry are recorded as first serving Sicilian Tyrants in 414/13, and then later after they were granted *civitas sine suffragio* in 338 the Romans would continually utilize them for “over a century.”⁵⁵² Although their employment seems to indicate that they were been competent horsemen they were to be completely outclassed by the Numidian cavalry during the early stages of the Second Carthaginian war.⁵⁵³

The Italic cavalry are depicted on the Warrior’s Return fresco at Nola, and in Paestum as riding with bridles and bits, without saddles. In both instances these horsemen are equipped almost identically with bronze belts, ankles guards, and open faced helmets with *aigrettes* in addition to being armed with javelins. The only differences are that the rider from the Warrior’s Return wears an Italic anatomical cuirass with its distinctive straps in place of the other rider’s linen tunic. Riders from Tombs of the cavalryman and the Procession Tomb from Nola are shown wearing a *linothorax*, and in all probability its extra flexibility is likely have made this the most effective armour worn by skirmisher cavalry.⁵⁵⁴ The majority of cavalrymen are depicted as fighting without shields. However, there are a few instances in which they appear ranging from the tomb paintings from Capua which illustrate the use of the oblong shield and the small round shields (*pelte*) which are associated with Tarentine

⁵⁵⁰ (Hammond 1989) p.62

⁵⁵¹ (Frederiksen 1984) p. 32, 69, 74-5, 147; (Sekunda 2008) p.330, 346

⁵⁵² (Frederiksen 1984) p.224

⁵⁵³ (Connolly 1981) p.112

⁵⁵⁴ (Aldrete 2013) p.142; (Burns 2006) p.376 WP48b, 377 WP49a

coinage depicting their cavalry, and should not be confused with the Greek *pelte* which was a crescent-shaped rimless wicker shield.⁵⁵⁵ The scarcity of the oblong shield as a cavalry shield is probably due to its size which would have made riding and throwing a javelin cumbersome, whilst the Tarentine *pelte* may have been more effective, and could be the same ox-hide covered, caked shaped shield which Polybius attributed to the early Roman cavalry (Polyb.6.25). This small buckler, resembles the *caetra* illustrated on a bronze Iberian cavalry figurine in the Madrid Museum, and may indicate that it was the preferred shield type of light cavalry across the western Mediterranean.⁵⁵⁶

These features suggest that the central and southern Italian horsemen were mounted skirmishers, and may explain why the Oscan speaking central and southern Italians who were used to fighting as skirmishers were then able to adapt to equestrian warfare so quickly after descending from the Apennines in 437, so that by 414 they were being recruited as horsemen in Sicily for the Athenian expedition (Diod. Sic. 12.31.1; 13.44.2; Livy 4.37.1).⁵⁵⁷ The likelihood that the central and southern Italians cavalry fought as skirmishers is further reinforced by literary evidence. For instance Livy describes an encounter between a Roman and Samnite cavalry in which the Samnites respond to the Roman charge by launching javelins (Livy 9.22). Furthermore, Polybius described the Roman cavalry spear as being too flimsy to be effective when used in a charge, and devoid of a *sauroter*, both of these elements are the features that help to identify a javelin over a spear (Polyb. 6.25). The arms and tactics of Campanian and Tarentine cavalry were similar to the Numidian and later the Iberian cavalry serving in the Carthaginian armies thus illustrating that, like infantry, there was a similarity in cavalry warfare across the western Mediterranean.

Celtic:

The Celtic cavalry sent by Dionysius to aid Sparta is described as launching javelins then retiring, before returning to launch more, in a manner similar to their Iberian, Italic, and Numidian contemporaries (Xen. *Hell.* 7.1.20). The similarity in cavalry equipment and tactics

⁵⁵⁵ (Burns 2006) pp.171-72

⁵⁵⁶ (Connolly 1981) p.151; (Picard 1968) p.336

⁵⁵⁷ (Frederiksen 1984) p.146

across the western Mediterranean may account for why the Celtic cavalry would be steadily employed after this period, particularly by Hannibal during his Italian campaign.⁵⁵⁸

⁵⁵⁸ (Cunliffe 1997) p.104

Appendix 2:

Balearic Slingers:

The Balearic slingers earned themselves a fearsome reputation. Their weapon was simple yet could be effective when used by experienced slingers. The direct evidence given in the ancient sources that pertains to the performance of Balearic slingers in battle is very general. Fortunately there are numerous examples amongst the Romans and Greek where the effect of slingers can be assessed. For instance; Athenian archers and slingers devastated heavily armed Spartan hoplites on the island of Pylos, and Syracusan missile troops wreaked havoc among the Athenian infantry by deliberately keeping out of range of the Athenians which suggests that archers, and slingers were probably used (Thuc. 4.32.4, 34.1-2; 7.81-83). Xenophon utilized his archers and slingers together in order to create a barrage of missiles that covered the advance of his infantry as they assaulted the fortress of the Drilae in modern Georgia (Xen, *Anab.* 5.2). Slingers were frequently used in a defensive manner during the Civil War by both Caesar and Pompey illustrating the potential for the sling to be used in both defensive and offensive operations (Caes. *BCiv.* 1.27l 3.44,46, 88, 93).

Diodorus Siculus, Silius Italicus, and Strabo (Diod.Sic. 5.18.8-9; Sil. *Pun.* 3.363; Strabo 3.5.1) all record that the Balearic slingers carried three different slings into battle. Italicus in particular reported that the reason for carrying three different slings was that they were of different lengths, and thus served different ranges of their targets (Sil. *Pun.* 3.363). Slings were constructed of a single pouchless piece of leather, or according to Vegetius (Vege. *Mil.* 3.14) linen, or bristly hair and fired balls of fired clay, or almond shaped lead.⁵⁵⁹ Diodorus records that Balearic slingers fired a ball that weighed a *mina* (c.500 grams), and remarked that their impact could be potentially crush armour and bone (Diod. Sic. 5.18.13-14; 19.109). The sling has been estimated as having an effective range of in excess of 180 m.⁵⁶⁰ Therefore the sling represented a kind of light artillery which was able to out range

⁵⁵⁹ (Echols 1950) p.227-228; (Salimbeti 2014) p.41

⁵⁶⁰ (Echols 1950) p.228

contemporary bows as recorded by Xenophon that the Rhodian slingers could reach twice as far as Persian slings, and further than the standard Persian bow (Xen. *Anab.* 3.3).⁵⁶¹

The Carthaginians had exercised a form of control over the Balearic Islands since 654, and likely utilized the Balearic slingers frequently between 350-264, although there is only one direct mention of them by Diodorus in 311 (Diod. Sic. 19.109.4-5).⁵⁶² The general disdain of the bow as an unmanly weapon meant that unless Greek, and North African opponents also had slingers in their ranks then the Carthaginian armies fighting on open terrain had a distinct advantage during the skirmish phases of battles over enemies who relied on javelins as their primary missile weapon which had an maximum range of only about 30m and an effective range of around 15m.⁵⁶³ When slingers were forced to fight in wooded terrain or on ground where their opponents held the high ground their effectiveness must have been significantly reduced. It is unlikely that the slingers ever wore much defensive armour, as the whirling overhead motion required to generate the force in order to hurl the shot would have been easily encumbered by anything resembling upper body armour, or a helmet.

⁵⁶¹ (Echols 1950) p.228

⁵⁶² (Scullard 1989) p.19

⁵⁶³ (Goldsworthy 2001) p.58

Plates:

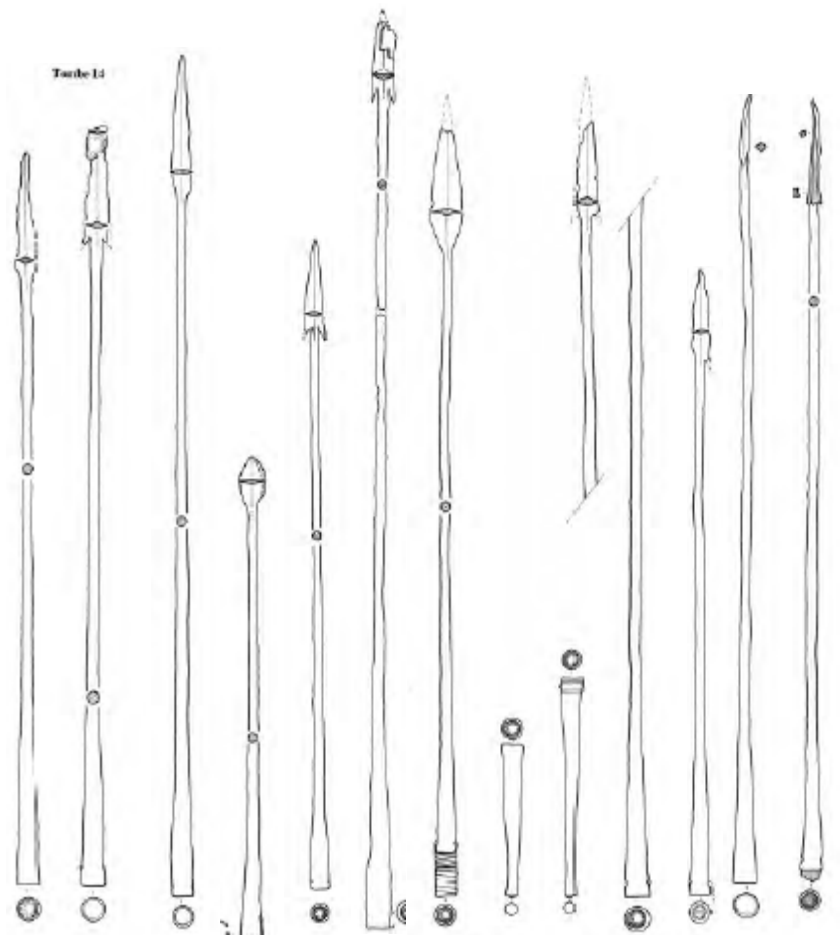


Plate 1 : Shanked javelins from Monte Bibele (After Lejars 2008 pp.183,184, 193, 197, 201, 203, 205)

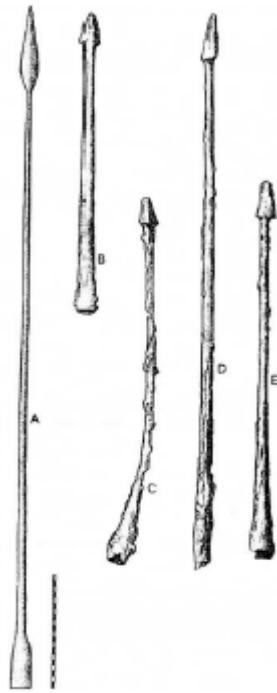


Plate 2: Shanked javelins from Montefortino B-E and Vulci A
(cf. Tomzack 2012 p.56 After Connolly 1997 p.44)

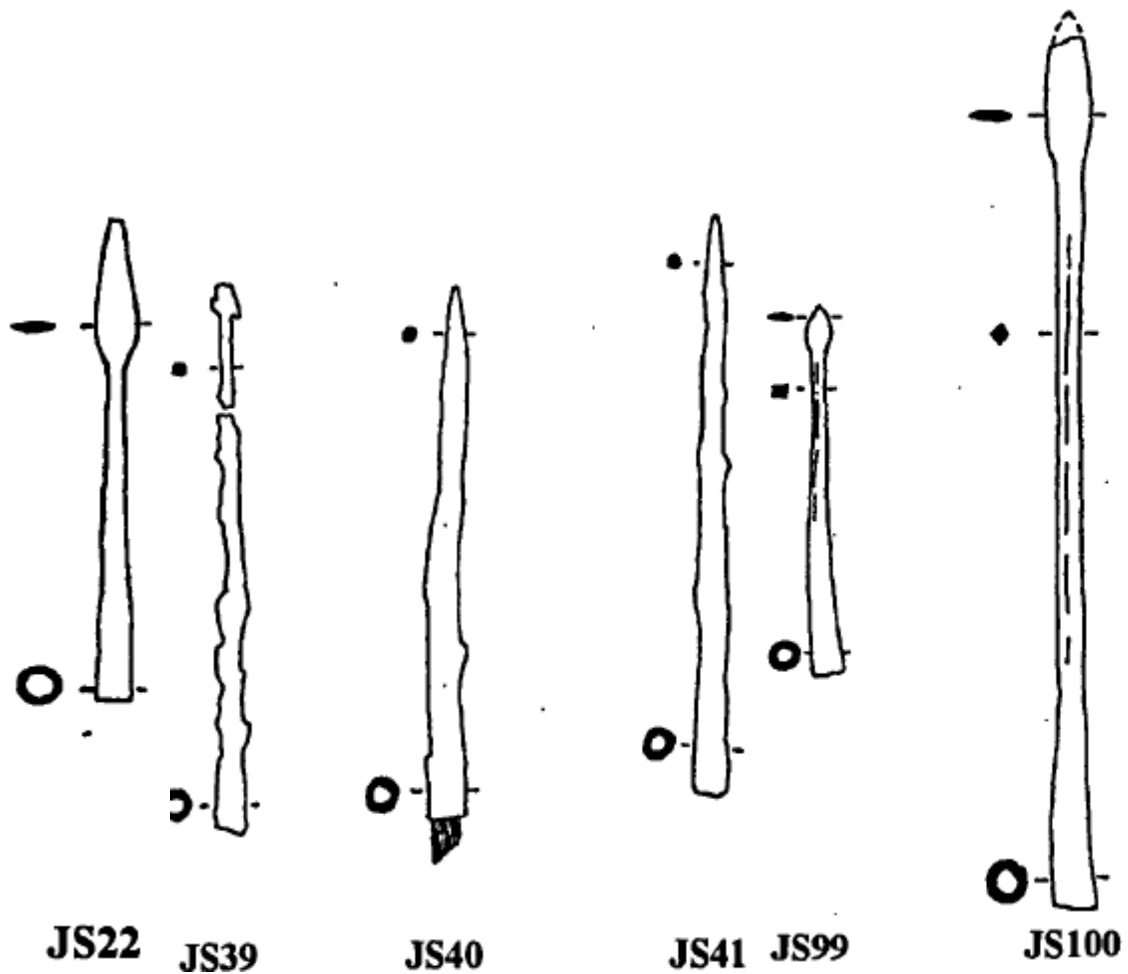


Plate 2: South Italic shanked Javelins (After Burns 2006 pp.355-357)



Plate.4 (After Burns 2006 p.345,346)



Skyphos, Berkeley University, California 8/3243. Painter of Louvre K296



Paestan bell krater, Richmond 81.72.
Attributed to Python

Plate: 5 (After Schneider-Hermann 1996 Plates 17, 61)



Plate: 6 The Văce Clasp and a warrior from the Arnoaldi situla
(After Connolly 1981 p.103)

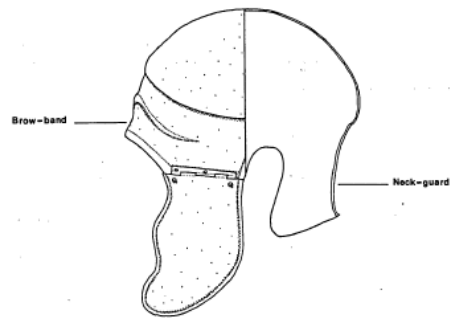


Plate 7 Samno-Attic helmet

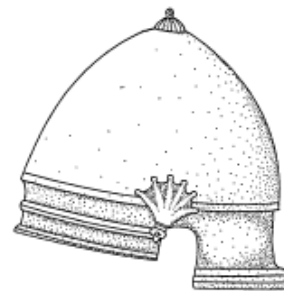
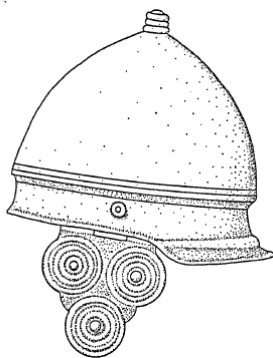


Plate 8 Etrusco-Thracian helmets

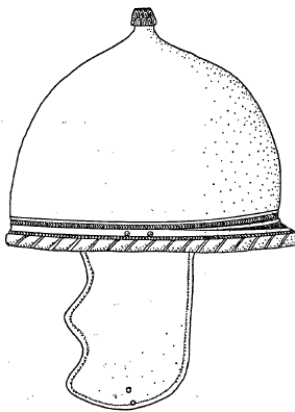


Plate 9. Montefortino helmet

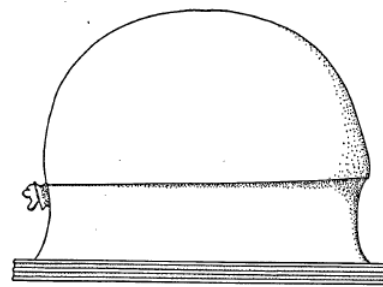


Plate 10 Negau helmet

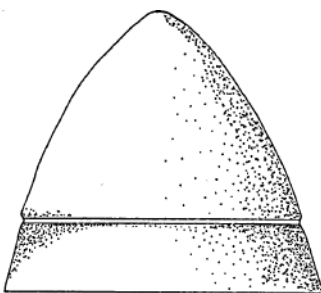


Plate 11. Pilos helmet

(All images after Paddock 1993 p. 402,354,330, 489, 191, 373)

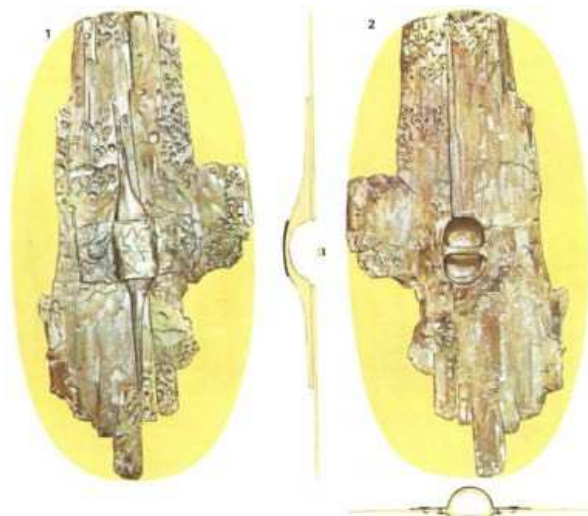


Plate 12. Oblong shield from La Tène (After Connolly 1981 p.118)



Plate 13. *Clipeus/Hoplon* (Both after Burns 2006 p.341,342)



Plate 14. Reconstructed *caetra* (After Quesada Sanz 2011b p.48)



Plates 145, 16 *Spongia* (After Burns 2006 p.301, 305)

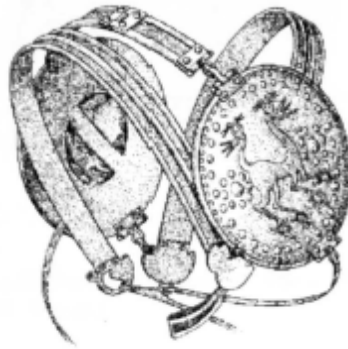
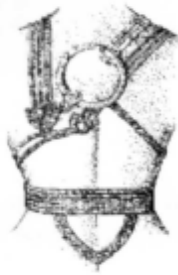


Plate 17. Capestrano Warrior with *cardiophylax* (After Burns 2006 p.293)



Plate 18. *Spongia* from Ksour es Saf (After Connolly 1981 p.111)



Plate 19. Greek styled bronze cuirass

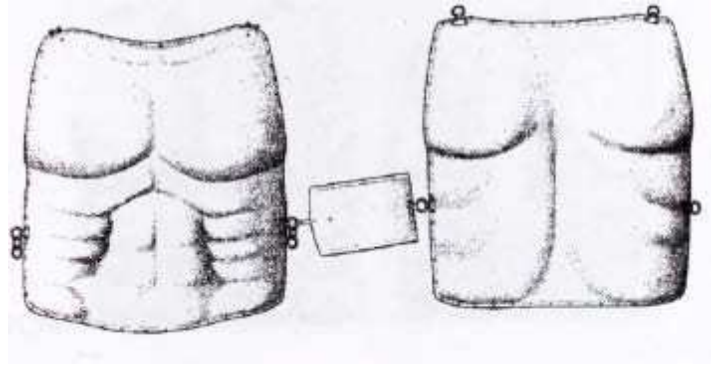


Plate 20. Italic styled bronze cuirass

(After Burns 2006 p.307, 317)



Plate 21. *Linothorax* (After Burns 2006 p.321)

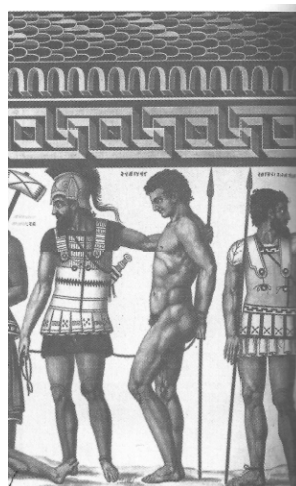


Plate 22. François Tomb depicting warriors wearing the *linothorax* (After Briguet p.162)

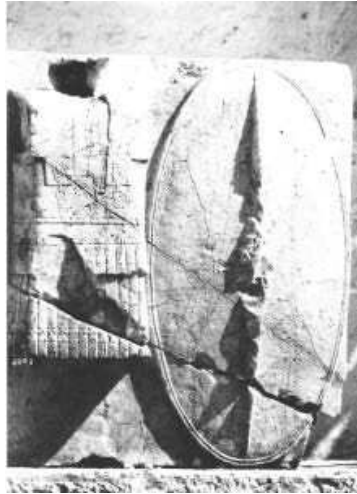


Plate 23. *Linothorax* and oblong shield from the monument at Chemtou (After Salimbeti 2014 p.28)

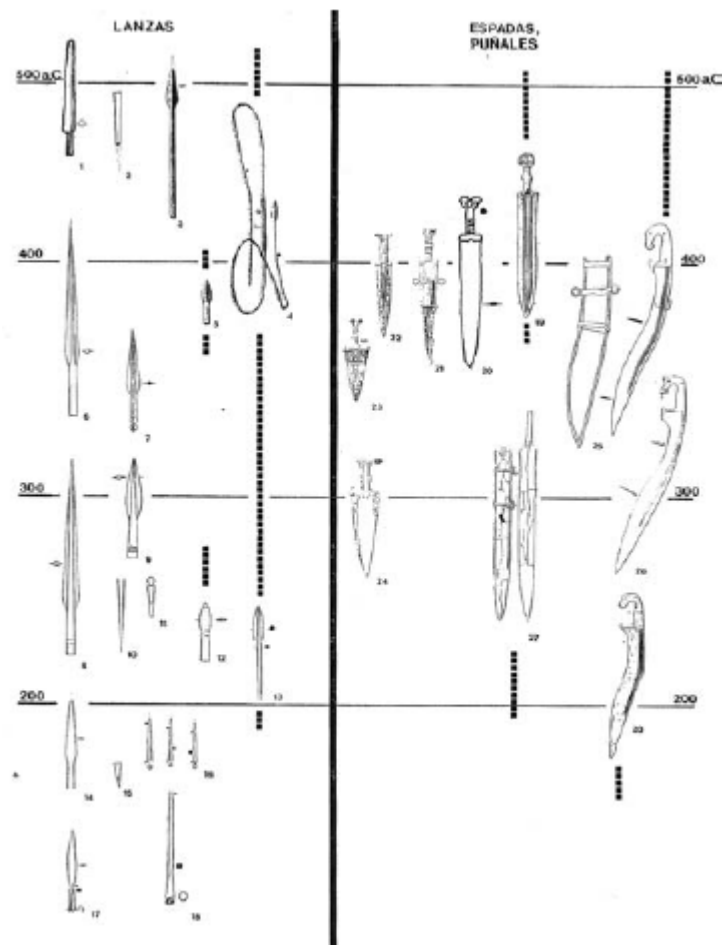


Plate 24. Main types of weapons in the Spanish peninsula. (After Quesada Sanz 2011c p.249)

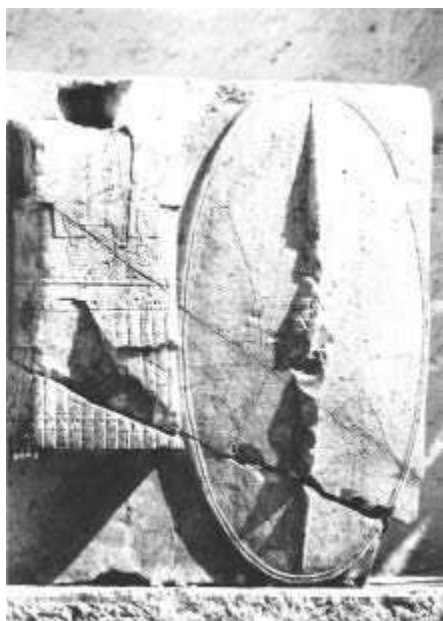


Plate 25. Relief from Chemtou depicting the *linothorax* and *pteryges* (After Salimbeti 2014 p.28)

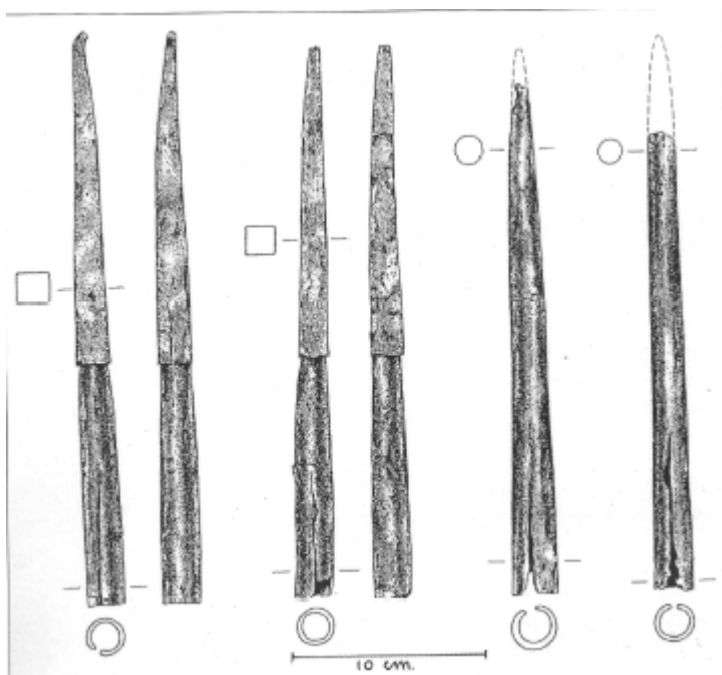


Plate 26. Javelin heads from Es Soumaa (After Salimbeti 2014 p.38)



Plate 27. The Warriors return scene from Paestum (After Connolly 1981 p.105)

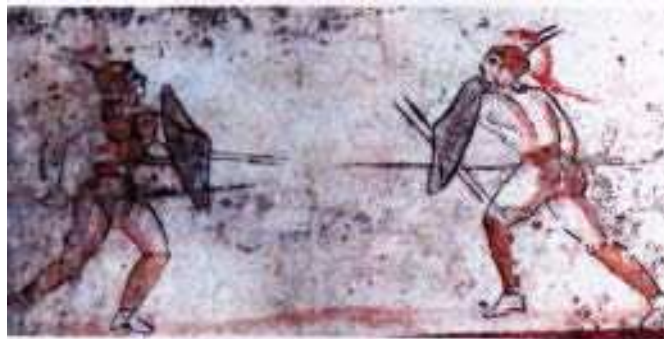


Plate 28. Tomb 53 Andriuolo, Paestum (After Burns 2006 p.371 WP20)



Plate 29. Tomb 114 Andriuolo (After Burns 2006 p.374 WP20)



Plate 30 The Celtic development of the Montefortino helmet (After Connolly 1981 p.121)



Plate 31. The Bragzana Brooch. (After Quesada Sanz 2011a p.138)



Plate 32. Warrior wearing a *cardiophylax* from Ceri (After Connolly 1981 p.98)



Plate 33. A scene from the Certosa situla (After Connolly 1981 p.96)



Plate 34. Seventh century depictions of oblong shield from Etruria (After Connolly 1981 p.96)

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